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## I

## WHAT IS THE USE OF PHONETICS?

By phonetics is meant the science of speech sounds, their production by means of lips, tongue, palate, and vocal chords, their acoustic qualities, their combination into syllables and other sound groups, and finally quantity, stress, and intonation. Phonetics thus may be called that part of linguistic science which deals with the outward aspect of language as opposed to the inner or psychological side of language, or it may be lookt upon as that part of physics and of physiology which deals specially with sounds as used by human beings to communicate thoughts and feelings to one another. Among those who have contributed to the development of phonetic science we find physicists like Helmholtz, physiologists like Brücke, and philologists like Sievers, Storm, and Sweet.

But what is the use of this science of speech sounds? Before attempting to answer this question I must be permitted to say that such a question in itself is not a scientific question. The true man of science pursues his inquiries without asking at every point about the use of examining this or that. A zoologist will not be deterred from examining the habits of ants or the muscular structure of their hindlegs by the cry of the man in the street that it is no use knowing all these things; he will go on patiently observing his animals in exactly the same conscientious and laborious way as if each little step in advance meant so much money saved or gained

for mankind, or so much food for the poor. The truly scientific mind does not ask about profit or use, but tries by every accessible means to add to human knowledge and to our intelligent understanding of the wonderful world that surrounds us.

Still, the question about utility is not quite futile; only it should not be urged in the first place, and it should never stand in the way of scientific research, however useless it may seem in the eyes of the uninitiated. Science *is* useful; but often it is so in a roundabout and indirect way. When my countryman Oersted discovered that an electric current influenced the movements of a magnetic needle, he made a great step forward in science. He immediately saw the immense importance of his discovery for our knowledge of the great mystical powers of electricity and magnetism; he did not stop to ask himself about the practical usefulness of such knowledge; his concern was exclusively with the theoretical side of the question, and joyfully he sent out the message to his brother scientists that here was one important problem solved. But then, *your* countryman[1] Morse seized upon this theoretical discovery and turned it to practical account: the electric telegraph came into existence, and everybody saw the use of Oersted's discovery. In the same manner purely scientific investigations may unexpectedly lead to some great practical result: the observation of the habits of mosquitoes leads to the diminution of malaria and other diseases, and research work in chemistry may eventually benefit mankind in some way not at all anticipated by the original initiator.

Practical usefulness thus often comes in at the back door, tho it should not be our primary object in scientific pursuits. But on the other hand, if it is possible to point out some practical advantages, this can do no harm, and may even be valuable in inducing people to take up some line of study which has not hitherto been thought necessary to average students. And this applies with especial force to phonetics, which, besides presenting great interest to the inquisi-

[1] This lecture was given in September, 1909, at Columbia University as the first of a series on practical and theoretical phonetics.

tive spirit, offers also no inconsiderable practical advantage to the student.

The teacher of foreign languages will find that a thoro knowledge of the essentials of phonetics will be extremely helpful to him in his classroom. Everybody knows the manner in which corrections of pronunciation were generally made in old-fashioned classes, and how they are still made by too many teachers, even among those who have themselves acquired a good pronunciation of the language they are teaching. The pupil reads some word in some miserably erroneous way, the teacher stops him and pronounces the word in, let us assume, the correct way. The pupil tries to imitate that pronunciation, but fails, and thus we have an endless repetition of the same word by the teacher, followed very often on the part of the pupil by an equally endless repetition of nearly the same bad pronunciation as before, tempered as often as not by mistakes in the opposite direction, the pupil shooting over the mark where before he had shot below the mark. By dint of enormous patience much may no doubt be achieved in this way; but the way is long and laborious, and so tedious that generally all attempts are given up after some time, with no visible result except that of some precious time lost to both parties concerned. How different, if the teacher knows his business, that is to say, knows enough of phonetics to be able to tell the pupil just exactly what is the difference between the sound as he pronounced it and the sound as it should be. Then he is able to strike at the root of the evil, chiefly thru an isolation of both sounds concerned: he pronounces them long and distinct by themselves, without any sounds before or after which are apt to bewilder the ear by diverting the attention from the sounds themselves, and then he shows how the difference of impression which it is now easy to appreciate, is produced by shifting the tongue a little forward or backward, or by voicing the sound, or whatever the mistake in question may be. He has here to give a few explanations which are theoretical, to be sure, but of the kind that appeal at the same time to the practical instinct of the pupils and can be made interesting and attractive. A simple drawing on the

blackboard, a look into a hand mirror, a little experimenting with your fingers, and there you are: the sound that appeared so difficult to appreciate is now understood in its mechanism, and the practise needed to possess it for ever is nothing but a kind of play, which is felt to be just as enjoyable as learning how to whistle or to play other tricks with one's mouth is to the average child.

When I began to teach French and English in Copenhagen, it was a kind of dogma there that—as one of the chief school authorities seriously informed me in a public discussion—there were certain sounds, such as the soft *s* in French and English, which no normal Danish tongue was ever able to produce, and that it was therefore necessary for us to confuse *seal* and *zeal, ice* and *eyes,* etc. It was no use at that time for me to tell him that the difficulty in question had nothing whatever to do with the tongue, but depended entirely on the vocal chords, and that as a matter of fact I had succeeded in teaching a whole class to pronounce correctly the sound in question, the voiced [z] as I prefer to call it. But I am glad to say that the same skeptic has since been completely converted, and that now he insists that all the language masters of his school teach their pupils the correct pronunciation and employment of this very important sound.

The sounds of [y] [2] as in French *vu* or German *über* and [ö] as in French *veut* or German *höhe* present difficulties for English-speaking pupils who are inclined to imitate the two sounds by means of some diphthong or combination like that found in English *view.* It is best to practise these two sounds together, and it is easiest to learn them in their long form: on the whole it will be a good thing for the teacher to pronounce any new sound, whether consonant or vowel, as long as possible to the pupils in order to familiarize the ears of the pupils with it. That it is not impossible to learn these sounds of [y] and [ö] was brought home to me some years ago in a striking manner. These sounds are also found in Danish; an English-speaking lady who had been in Denmark for some years had not been able, in spite of unceasing ef-

[2] Phonetic transcription should always be given within brackets.

forts, to learn them by imitation. Then I made a bet that I could teach her to pronounce them in less than ten minutes, and I won the bet thru five minutes' theoretical explanation of rounded and unrounded vowels, and two minutes' practical exercises. The directions were about as follows: say [u ·] as in *too* very loudly, and hold it as long as you can without taking breath. Once more: observe in the hand-mirror the position of the lips. Then say *tea* [ti·] in the same way; draw the vowel until you can hold it no longer; continue all the time to observe the position of the lips in the mirror. Now [u · · ·] again; then [i · · ·]—one dot in my phonetic transcription indicates the usual quantity of a long vowel, and three dots an unusually lengthened vowel. The lips are rounded for some vowels, slit-shaped for others. Try to pout them rather more than you do usually. Pronounce [u · · ·] a couple of times with the lips rounded and as close to each other as possible, and concentrate your attention on the lips. Then say [i · · ·] a few times, paying attention to the position of the tongue; you will feel that the sides of the tongue touch the roof of the mouth or the teeth. Now look in the mirror: say [i · · ·] again, and now suddenly, taking care to keep the tongue in the same position, let your lips take the rounded, pouted position they had before. If the pupil is still unable to produce [y] because he involuntarily shifts his tongue-position back again to the familiar [u]-position, the teacher passes on to the second part of the experiment, which is surer, and might therefore have been taken first: place your lips in this pouted [u]-position, without producing any sound, look in the mirror, and be very careful that the position of the lips remains unchanged, and then try to say [i · · ·]. If the tongue is placed in the correct position for [i ·] as in *tea,* the result can not be anything else but a [y ·]. This sound is retained and repeated until the pupil is perfectly sure of both the articulation and the acoustic effect. Then the sound [ö] may be taken up. It may be produced with [y] as a starting-point, the jaw being lowered together with both the lower lip and the tongue, while the teacher takes care to stop the downward movement in the right place. The result may be checked by

starting from [e] as in French *fée* or German *see,* and rounding the lips, that is, by going thru a process corresponding to the transition from [i · · ·] to [y · · ·]. I may add that I was glad a few days ago to meet the same lady again in New York, and to find that in speaking Danish she used perfectly correct [y] and [ö] sounds in spite of having been absent from Denmark for some years.

The teacher who devotes a few hours at the outset to the study of the sounds found in the foreign language he is going to teach [3] will find that it pays, because it saves him very much time later and permits him to give his time later on more exclusively to the higher branches of the study, idiom, literary expression, and so forth. He will find, besides, that the better his pupils' pronunciation is, the better will they be able to appreciate the esthetic side of the language as a whole, the style of various authors, etc. As a matter of fact, whoever does not possess a foreign language well enough to hear it in his mind's ear as the native does, will never be able to appreciate the higher forms of a foreign literature, whether in prose or in poetry.

If, thus, a little phonetics is useful, or shall I say indispensable, to the teacher of foreign languages, it is so, too, to the teacher of the mother tongue. He also has often to contend with imperfect articulations and vices of pronunciation in his pupils; he, too, will find that mistakes which at first he was inclined to attribute to organic defects, or which from other reasons he thought ineradicable, are really due to the fact that the child has never been taught how to make proper use of the organs a bountiful Nature has given to him as well as to the rest of us, and that a few explanations of the same kind as that hinted at above, together with a little systematic practise, will generally do wonders. And then think of those numerous cases in which the "mother tongue" taught at school is really more or less of a foreign language to all or some of the children of a class, because their home

[3] See for the method of such initial elementary instruction in phonetics my book *How to teach a foreign language,* p. 145 ff. (Sonnenschein, Macmillan Company).

language is either some dialect of the same language, or else some other language, as is largely the case in New York and other cities in the United States.

School authorities in various countries are now beginning to see the importance of phonetics, and to require it as part of the ordinary equipment of a teacher. In Denmark familiarity with phonetics (and phonetic writing) is now required from any one who wishes to obtain a teacher's certificate in any of the modern languages, either at or out of the university; but unfortunately it is not yet required of the teachers in elementary schools. But in England and Scotland the necessity of some training in the theory and practise of speech sounds has recently been recognized as part of the normal training of all teachers in primary schools.

Now, there is one class of teachers who have even more need of phonetics than other teachers of language, namely the deaf-and-dumb teachers. Some of the earliest descriptions of the organic positions required for speech sounds are due to the first pioneers in the difficult art of teaching deaf-mutes to speak in the same way as hearing persons do, and now it is everywhere considered as a matter of course that the teacher of articulation and of lip-reading (or, better, mouth-reading) in schools for the deaf-and-dumb must be thoroly familiar with theoretical and practical phonetics. There is no necessity for enlarging upon that subject.

I therefore pass on to another field where advantages are likely to accrue from a more extended knowledge of phonetics. The question of spelling reform is a burning one in all civilized countries. Not only in English, but also in French, in German, in Danish, in Swedish, in Russian, and to a much lesser degree in Italian and Spanish, do we find numerous instances of words spelt otherwise than pronounced, of mute and superfluous or ambiguous letters. Everywhere the educated classes have more or less systematically for the last few centuries been doing everything in their power to prevent that readjustment of spellings to sounds that is indispensable if the written language is to remain, or is again to become, what it was everywhere to begin with, a tolerably faithful picture of

the spoken language. The present situation is one of a clumsy and difficult system of spelling that causes a miserable loss of time in all schools (and out of schools, too); much valuable time which might be used profitably in many other ways, is spent upon learning that this word has to be spelt in this absurd manner, and that word in another equally absurd way, and why? For no other apparent reason than that such has been the custom of a couple of centuries or more.[4] Each new generation keeps up faithfully nearly all the absurdities of the preceding one, and as each new generation is bound to change the pronunciation of some sounds and of some words, the gulf between the spoken and the written word is constantly widening, and the difficulty of learning how to spell is ever growing greater and greater. Now I know very well that it is not every phonetician who is a spelling reformer tho a great many are; but what I do maintain is, in the first place, that only a good phonetician can show what is to be reformed and what is to be the direction of change, because he alone knows what sounds to represent and how best to represent them. Sweden had an excellent reform of some points of their spelling a couple of years ago, because in that country a great many prominent phoneticians, such as Lundell, Noreen, Tegnér, Wulff, had some years previously in a series of valuable books and papers threshed out all problems connected with spelling from the philological, historical, and pedagogical points of view. And it would be well if other countries were soon to follow the example set by that small nation. With regard to English, a great deal of extremely valuable theoretical work and practical experimenting was done in the eighties of last century by excellent scholars and phoneticians, Ellis, Sweet, Evans, Skeat, and others, most of it to be found in the Transactions of the Philological Society of London, and I am glad to see that now the Simplified Spelling Board in this country and the Simplified Spelling Society

[4] Of course, there are *historical* reasons for the caprices of spelling, but they make them no more reasonable from the point of view of the *present-day* speller; I have studied them in detail in my *Modern English grammar*, vol. I. *Sounds and spellings* (Winter, Heidelberg, 1909; in New York at Stechert's).

in England are beginning to spread useful information with regard to spelling. I wish them every possible success for the benefit of the English-writing world and of mankind at large.

But in the second place I maintain that a *thoro* reform of the spelling of any civilized nation does not only presuppose a small set of energetic phoneticians who have investigated all the odds and ends of the subject, but will not be possible till the day when the general public have given up what I should call their all-pervading superstition in these matters, their irrational belief that the spelling of words has been settled once for all, as if by some divine command, and that any deviation from the traditional spelling is either ridiculous or else an infallible symptom of low breeding. Much of that superstition will break down when people get accustomed to seeing old authors spelt in the orthography of their own times; I think it is a great pity that Shakspere is now nearly always reprinted in and read in the spelling of the nineteenth century instead of in that of the old editions. Much would also be achieved if scholars of renown, philologists, students of literature, and writers of books in general, would indulge in some individual spellings, one in this class of words, and another in some other class. These individual spellings need not be very numerous, nor should they be necessarily consistent, and the author need not give any other reason for his special heterodoxies than that they just suit his fancy. This would educate readers by showing them that different spellings need not always be marks of illiteracy, and that there may exist difference of opinions in this as well as in other respects without any fear of human society falling at once to pieces on that account.

But still more will result when some elementary understanding of what language is, and especially of the relation between sounds and letters has spread much more universally than is now the case. Some little knowledge of the nature of heat and the construction of a thermometer is presupposed in every man and woman of any but the lowest standard of education, but in spite of the fact that many, perhaps most, lessons in all schools are really language lessons, very little

has been done hitherto to make school children understand the mechanism of speech, tho we possess really in our vocal organs an apparatus much more wonderful and much more interesting than the most ingenious steam engine ever invented.

I am, however, inclined to think that the radical spelling reform I am hoping for, will be brought about not so much thru a diffusion of phonetic science proper as by one of its accessories, namely phonetic symbolization. Any science needs some more or less conventional symbols; the mathematician has his +, and —, and √, the chemist has his letters and formulas, etc., and similarly the phonetician must have his signs and symbols to denote sounds and their relations. The ordinary Roman alphabet may certainly be used, but on one condition only, namely that the same letter has to stand everywhere for the same sound. To teach phonetics, or indeed to speak of language at all, would be completely impossible were we to use nothing but the ordinary spelling *(cat, car, care, cent,* etc., etc.). This has been compared to teaching arithmetic by means of Roman numerals; but the comparison is false, for it would obviously be possible to carry on even complicated calculations by means of Roman numerals, because they have everywhere the same value. But dealing intelligibly with sounds as represented in the ordinary spelling is manifestly as impossible as it would be to teach arithmetic by means of a system in which one numeral were to stand sometimes for the value nine, sometimes for thirteen, sometimes for two, and sometimes for nothing at all. Or what would you say about a musical notation in which the same note at different positions in different bars had quite different values without anything to show its value at each place. We must evidently in phonetics have some kinds of consistent notation, even if we might perhaps limit ourselves to exacting consistency only in the same book or in the same transcribed text. Many different systems have been advocated and employed, partly owing to the different purposes for which phonetic transcription has been used, but tho complete unity of notation has not yet been arrived at among phoneticians, it is fair to say that there is now much less diversity in this respect than in

previous decades. The system of the international Association Phonétique, as developed in the monthly *Le maître phonétique*, on the basis of the work of Sweet and others, is evidently gaining ground in most countries, and tho many scholars do not accept it in all minute details, the general principles and the great majority of special characters are now practically adopted by most of those who are entitled to a vote in the matter. Without entering into a detailed argument on this very difficult subject, I shall here only say that there are, roughly speaking, three degrees of exactitude in phonetic writing: one for the highest scientific use, requiring a great many special symbols; another for ordinary work in describing and teaching a foreign language, in which some new letters, tho not very many, are needed; and finally, a very simple phonetic system with few if any new letters, suitable for a very easy transcription for natives who are already familiar with the sounds represented. It is the last system only which can serve as a basis for the spelling reform of the future, and it will probably do so thru being used for a totally different purpose, namely that of teaching small children to read their own mother tongue.

I may at some future time have an opportunity of reverting to the method of teaching children to read by first having them read some kind of simple, easy, phonetic writing. Here I shall only say that experiments made in various countries, in England fifty years ago by Alexander J. Ellis and later by Miss L. Soames, in Norway by August Western, in Alsace by J. Spieser, in France by Paul Passy, and in Denmark by myself, have shown that a child who does not begin by being introduced to all the bewildering entanglements of the ordinary spelling, but who learns first to read and to write words spelt *consistently* without regard to orthodox orthography, will learn both this simplified writing, and after that the usual spelling much more rapidly and much more securely than if he had begun at once with the usual spelling. This is a result which astonishes most educators, altho the psychological reasons for the success of this seemingly round-about method are not far to seek; but instead of trying to give a

short and therefore necessarily inadequate description of the method to be employed, I will rather break off here for the present, summing up my arguments by saying that to every and any teacher concerned with language in one form or another, whether the pupils' own or a foreign tongue, phonetic science is desirable, nay indispensable, and that the language teacher of the future must know something about the production of speech sounds, such knowledge being as necessary to him as it is to the teacher of geography to understand what longitude and latitude means.

If I have not said a word about theoretical philologists, students of the history of languages, or those who try to reduce unwritten languages or dialects to writing, the reason is that here everybody can see at once the fundamental value of the study of phonetics; what I wanted to emphasize in this paper was only the enormous practical usefulness of the science of speech sounds and its bearing on education in general.

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## II

# WILLIAM TORREY HARRIS—EDUCATOR, PHILOSOPHER, AND SCHOLAR[1]

William Torrey Harris had past his thirty-second birthday before I met him in St. Louis in 1868. He had been married to Sarah T. Bugbee some ten years and he was a splendid specimen of vigorous manhood, whose habits of thought and theories of life had been fully wrought out. Later years only expanded and rounded out the views he then entertained, and equipped him more completely for investigation in other fields of research. His thinking then embodied three very strong personal characteristics,—careful reflection on all subjects that occupied his attention, self-introspection, and their practical application to all affairs of life. In various places, scattered thru his writings and in his conversations, he has shown how he had reached these conclusions.

His life and activities naturally divide into four distinct periods:—1. From his birth till he left Yale; 2. Residence in St. Louis; 3. Ten years in Massachusetts; 4. Seventeen years as Commissioner of Education of the United States.

### I. EARLY LIFE

*The steps showing how he had reached this stage in his development*

Born on a farm in Connecticut, September 10, 1835, and shut off by timber lines for miles from anything that could be called a town, and more than a mile from the nearest neighbor, was the beginning of his life in a typical New England childhood home,—lonesome enough, but affording excellent opportunities for physical exercise, and plenty of time for reflection on what he saw about him. He inherited great

[1] Paper read before the Missouri State Teachers' Association at St. Louis, December 28, 1909.

mental power, a strong and sinewy physique, and an iron constitution that could endure tremendous tension. As a child he was precocious and original.

At the age of four he started to a summer school, which was a mile and a half distant. He learned rapidly and at five he could read such books as he had access to. From five to six he read those short sentences or maxims in Webster's *Elementary spelling book* that exerted a strong formative influence on his life and character. He reasoned out the meaning of these sentences, as he once said in a conversation, to determine their bearing on conduct and as a guide for living. Not only was his mind of a highly reflective order in early childhood, but his memory of facts and laws was remarkable in its accuracy. The contents of the few textbooks he used he committed to memory, and could repeat them whenever he desired. Of a Latin grammar that he picked up when a little boy, he learned much by heart,—a long string of words and their meaning in English without the knowledge of his parents or his teacher. In a playful manner he would at times recite from his early textbooks, to illustrate how the lower forms of memory had become automatic, and needed only to be set in motion occasionally to reproduce what it had once previously acquired. Having by his eighth year learned about all the country schoolmaster could teach him, his parents sent him to school in Providence, and here he attended for three years. At the age of thirteen he entered an academy, but not getting what he wanted he tried four others in succession. Drifting along from thirteen to seventeen, but picking up many fragments of knowledge and some wholes, he entered Phillips Andover Academy, and prepared for Yale. While here, he was balancing in his own mind what line of work he would follow. There was present an active impulse to become a clergyman. The profounder problems of life had taken deep root in his soul during these earlier years, and yet there was now an element in his nature that struggled against the acceptance of any subjective belief which had no foundation based on the clearest principles of reason and justice. Instinctively he felt, perhaps partially unconscious of it, that his

work was that of a teacher. The hitherto dimness in regard to an occupation began to clear up, and before entering Yale he had taught two winter schools.

The farm life he already knew and he had enlarged his experience, not only in directing himself, but in guiding others, a foreshadowing of what he would eventually do for his country. His body was hardening into sinewy compactness directed by an imperious will, guided by a clear, intellectual vision of the highest order and a refined and discriminating taste for one of his years.

He entered Yale with a wider experience than most young men. Before the age of ten he had been on a voyage of discovery, observing men and things, situations and conditions, whence and whitherward. Nowhere yet did he fit well into his surroundings. Into whatever sphere he peered he saw other possibilities than those that lay nearest to hand. The horizon was too narrow and it hedged him in too closely, so he went to Yale with some expectations.

In his round of experience he had come in contact with some few teachers whose influence had touched him at those points where he most needed soul sympathy. Of these he cherished fond recollections. But once in Yale, he not only lookt around, but he saw what he lookt at, and he believed that he fathomed its trend. "More than two years he remained here standing high in his studies, but rebellious in his inner nature against a formalism that he detested." Yet these were valuable days. The very atmosphere and side glimpses indicated possibilities, but he turned away because he did not believe he could be benefited by a longer residence.

The natural sciences had appealed to him very strongly, and he was getting ready to make a wider excursion than he had before undertaken in this department. His mind was many-sided and one was a strong bias for mechanics and mathematics, both theoretical and practical; and this furnishes the key why he longed to get a somewhat stronger hold on the organic sciences as well as on the mechanism of the earth and of the solar system.

He believed that the world problems must be solved thru

organic and inorganic nature by the aid of mathematics as an instrument. As he once exprest his attitude at this stage, he had grown dissatisfied with nibbling at the little ends of things. His mind was so constituted that he must deal with all phases of knowledge on a large scale. He would now solve the mysteries of life and matter in his own way, and hence devote his energies chiefly to mechanics both terrestrial and celestial, while holding philology, philosophy, and literature in abeyance.

He would not only perfect himself in theoretical and practical knowledge of which he had obtained considerable insight, but he must understand the instrument, languages which thought used, to achieve its purpose. The college walls at Yale no longer confined his thoughts. They wandered out and far. A larger life stirred within him. Equipped strongly in some directions, thanks to a good memory and a mental power of assimilation combined with constructive ability of the highest order, he would try his fortune in a new field. No doubt before he started for St. Louis he had a definite purpose in mind. It may have been that the influence of Theodore Parker moved him. Be the impelling force whatever it was, he could not have chosen a better locality in which to develop his rapidly expanding powers.

### II. TWENTY-THREE YEARS IN ST. LOUIS

Upon his arrival in St. Louis in 1857, he became a tutor in a private family and a teacher in short-hand. In his new home a school system was already organized and in operation. A vacancy was to be filled in the principalship of a newly erected grammar school and a competitive examination was held. The spectacled young Harris stood first on the list. The President of the Board met the applicant, questioned the young man from Yale, and he detected at once the superior qualifications he possest, and he was assigned to the Clay School. He entered upon this work with all the intensity of his nature, organizing the heterogeneous elements composing it into a strong working body. He mingled with the boys on the playgrounds, allowing them the widest latitude in their games.

Thru his efforts he had the playground equipped with simple apparatus, such as horizontal bars, ladders, trapezes, and upon these he showed the boys how to perform. He was a good swimmer and an excellent shot with the pistol and rifle. In the schoolroom he taught the highest classes, and he was exceedingly strong in conducting recitations in history, grammar, and arithmetic. Such a principal had a deep hold on those who came under his personal influence.

Still the dominant thought in his educational life now was in the domain of natural science. Astronomy and botany appealed most strongly to him and, in order to prosecute his observations in the former, he constructed and mounted a telescope in the rear part of his residence that he might study the phases of the moon and of the planets. While a student in Yale from 1854 to 1857, he had gained some glimpses of philosophy in that college atmosphere, but with the recent impetus that had been given to phrenology by the writings and the lectures of Gall, Spurzheim, George Combe of Scotland, and the Fowler brothers in the United States, he studied not only their writings with avidity, but also *The constitution of man* by Combe, and those writings exerted a decided influence on his life for several years. His first real approach toward an understanding of the nature, structure, and the operations of the human mind was thru phrenology. Thru this investigation his thoughts were turned from the outside world to an interpretation of his own mental states and actions as compared with others as inferred from their temperamental conditions. During these years he was trying to get hold of those forces in human nature by and thru which men in large bodies could be directed. It was a struggle upward thru a phase of materialism towards a clearer mental and moral atmosphere. He was going thru the necessary experience based on the observation of facts, realizing, perhaps dimly at first, that no enumeration of instances, however extensive, is absolutely adequate, so long as any one instance remains unaccounted for. He saw at this stage of his scientific progress the vast difference between error prevented and progress forwarded. He saw most clearly that a few facts suggested a

hypothesis, which means a supposition, to explain them. Before his mind were two leading ideas—that of going right and to keep himself from going wrong. Here he perceived quite clearly that the physical philosopher frequently has to conceive of a law that had never been in his previous thinking,—to assume the existence of an unknown,—in order to explain the facts already collected. Only by anticipation can one now infer that he saw that the physical science discoverer can not in advance lay down the law to which everything cataloged must conform. Starting from some facts with a hypothesis sufficient to explain them, Mr. Harris worked both forward and backward to reach valid conclusions. To gather facts, to label them, formed the two lower processes that meant cataloging, but to interpret them in relation to other knowledge, new and old, their bearing in all directions, was the special object of his investigations. The supreme problem was to know the *significance* of *meaning* in its wider and deeper sense, a step beyond Mr. Spencer's relativity of knowledge.

Once in St. Louis, he did not shut himself up in his school, tho he attended to all of his duties with great punctiliousness, yet he began at once to look into and to become acquainted with the various phases of social life composing the cosmopolitan organism then known at St. Louis.

In this strange mixture were descendants of the early French families that had settled there under Spanish and French rule, still retaining strong traces of the ancestral character. By the side of these was the very strong element of the Southern, who possest wealth, culture, and polish of manner, perhaps the most aristocratic element of the city. The city in many respects was decidedly that of the elegant Southern home. The third class came from New England and the Middle States, who had brought with them culture, energy, perseverance, and indomitable will power. Many of them were professional and business men who had come westward to better themselves financially. Political trouble in the various German states had sent tens of thousands into the Mississippi Valley, and St. Louis received her full quota of these industrious and careful citizens, who in later years were destined

to exert a tremendous influence, not only on the destiny of Missouri, but on the deeper currents of history thruout the United States. Ireland was strongly represented by her sons and daughters, many of whom had achieved high distinction in their new homes. Among these currents and counter-currents, the young schoolmaster had to adjust himself. His genial and polite manner, his discreet speech and wealth of knowledge, soon rendered him a general favorite in all classes of cultivated society. He entered heartily into the thoughts and feelings of his new-made friends, and he interpreted correctly their thoughts and aspirations. In every sense he was a man teaching school. His nature was very receptive, and he assimilated many of the elements from those classes of citizens who differed from his childhood home, and he was preparing himself to become, in the truest sense, a full-fledged citizen of the United States and of the world. In his new position he rose rapidly into prominence. When a call was made, in 1858, for the purpose of organizing the Missouri State Teachers' Association at St. Louis, and Horace Mann addrest it, William T. Harris was elected secretary, and kept the minutes of that session. School conditions were rapidly changing in St. Louis when Mr. Harris entered upon his work there. Upon the retirement of Superintendent John H. Tice in 1857, Ira Divoll was chosen to fill the vacancy. He was a thoro schoolman, clear-headed, well-balanced, and possessing qualifications of a superior order for the position to which he had been chosen. He was not long in discovering the tact and skill as well as the high rank of scholarship the young principal possest. He had watched with a critical eye how he kept in proper discipline the boys of his school during the excitement prior to the opening of the Civil War and after it had commenced, retaining thruout the respect of pupils and parents, however much they differed on the causes of the strife then raging.

*A great awakening*

There came to America from Germany, in 1844, a lad, Henry C. Brockmeyer by name, sixteen years old, penniless,

a stranger, and without any knowledge of the English language. He had worked at the tanner's trade, and he drifted west to St. Louis, where he found employment for a time, thence to Memphis, on to Columbus, Miss., hoarding his scanty earnings in order to attend college, so strong was his desire for an education. He entered Georgetown College, Kentucky, devoting himself especially to Greek and logic. From Georgetown College he was politely expelled, because he questioned the president too closely on a theological proposition. The young student went to Brown University to continue his studies which had been so singularly interrupted. While at Georgetown he had decided to study philosophy, incited thereto by certain passages in Plato which he had translated. One passage in Plato's writings particularly imprest him. If a position is assumed as true, judged from what it explicitly stated or affirmed, then what would occur if the opposite be assumed? This thought involved the positive and negative sides of any subject under consideration. This thought stuck in his mind, so he later avers. Happening upon Hedge's *German prose writers* while at Brown he was led to Hegel's *Unabridged logic,* as being the greatest intellectual effort in this direction. When he had learned all that he wanted at Brown, he came to Missouri in 1852 and settled in Warren County. He lived for several years in a cabin in the woods with a dog and a gun as companions. He was in the closest contact with nature, and he had plenty of time for headwork. Here he came to himself, and determined to buy a farm; but he had no money, so he went to St. Louis and secured employment in a stove foundry. He lived in a small rented room, did his own cooking, read and wrote, and studied during all his spare hours. As he stated, he lived on almost nothing and saved the rest. It so happened that one Sunday afternoon in 1858, he dropt into a meeting held in the old Mercantile Library—Smaller Hall—in which those present were discussing some occult subject in Oriental philosophy. The secretary of the meeting was a young man named Harris, who seemed to be the one sane person of the gathering.

After the meeting had closed, Mr. Brockmeyer and young Harris walked along the street together when the workingman

began to question him, and they engaged in a discussion. Young Harris made a quotation from Cousin, and Mr. Brockmeyer retorted that Cousin contradicted himself on every page. "This was the beginning of our friendship, and the nucleus of the group of students that soon gathered together," so writes Mr. Brockmeyer.

Later, in his preface to Hegel's *Logic,* Mr. Harris writes that "Mr. Brockmeyer, whose acquaintance I made in 1858, is and was then at that time a thinker of the same order of mind as Hegel, and before reading Hegel except a few passages in Hedge's *German prose writers* (at Brown University), he had divined Hegel's chief ideas and the position of his system, and informed me on my first acquaintance with him in 1858 that Hegel was the great man among modern philosophers, and that his larger logic was the work to get."

This book was ordered at once from Germany, but in the meantime a group of young men would go to Mr. Brockmeyer's room of evenings, on Seventh and Plum Streets, and listen to his brilliant expositions of Plato's *Dialogues* as he lay stretched on his narrow cot, resting after a hard day's work. This explanation opens the way to an understanding of how young Harris began to see the great problems of individuals and of nations in a different and clearer light than hitherto. He, and others associated with him, had found one of the very greatest, as well as one of the most original and far-seeing minds that had ever been developed in this country. At once it changed as well as intensified Mr. Harris's modes of thought and set them moving in other directions. At one blow he saw the materialistic edifice which he had been bolstering up in his thinking as an explanation of this life and its institutions, crumble and fall to pieces under the irresistible logic of Henry C. Brockmeyer. Henceforth, he began to inquire how institutions in that larger sense had come into existence, and what they stood for in civilization as it was then on the earth.

Where Mr. Brockmeyer led with a flaming light, Mr. Harris and others could follow with some degree of assurance; tho Mr. Harris, in speaking of this period, said that he read and studied Plato for eighteen months with all the

energy that he possest before the first gleam of light burst upon him, and it was then as clear as a sunbeam.

It was also at this time in the light of past history that Mr. Brockmeyer unfolded to his students the dark portent of the times in America at least two years or more before the appeal to arms came. He said the conflict is industrial; slavery is only an incident. Almost fifty years later we are only dimly beginning to realize his prophecy, and that our history, if truthfully interpreted, must be from this viewpoint. Young Mr. Harris had brought with him to St. Louis the home life and all its steadying and uplifting moral influences of the New England home, reinforced by school, academy, university, and the magical touch of New England's highest thought on great moral issues. Added to this is a vast amount of study and miscellaneous reading on a great variety of subjects. Explorations had been made in many directions, some fruitful, and all, perhaps, useful. His mind was critical, discriminative, constructive and versatile, and of great solidity.

But the work that was laid out for this small group of men and women in St. Louis was hard mental work, requiring long and patient thought, close application, and very hard study. To get at the best and greatest leading thinkers of the world had thought or were then thinking, is what they proposed to learn and to understand. While they could not bring these great leaders to St. Louis, yet they could summon them there thru all the ages, question them, and get all their secrets. The living they could interrogate by letter and have their lights shine on dark places. Indeed, what a school was this which proposed, in a city little more than fifty years old, to summon all the great teachers of the world into its recitation room and make them elucidate their deepest and most recondite thoughts; not only this, but nations and dynasties and institutions must be summoned and asked to justify their existence.

Into this group teachers and citizens gathered, earnest, thoughtful learners, but each independent in his own activity. It was not a class but a university. Among this group, in addition to joint work, each undertook something along his

own line. Overhauling and making new inventories of what others had published, getting new insights and elaborating them, endeavoring to explain the activities of individuals and of nations by universal laws which would apply to humanity as physical laws condition the material universe.

From 1858 Mr. Harris began to lead a different thought life. In his critical exposition of Hegel's *Logic,* published in 1890 and dedicated to Henry C. Brockmeyer, the author gives in the preface a brief autobiography of his progress in philosophy from year to year, and how he groped his way by sight and faith over each problem covering a period of more than thirty years. All this time Mr. Harris was tightening his grip on every phase of philosophy that came within his reach. He was making excursions into nearly every other domain of science, art, law, history, biography, and literature. A principle or a fact that he once made his own, he never forgot. No hazy or shadowy ideas ever satisfied him, and he was as careful as was General Grant to represent the opinions of others with scrupulous exactness.

Henry C. Brockmeyer, later lieutenant-governor of Missouri, was the teacher and prime mover of this group of distinguished men and women at the beginning of their philosophical investigations.

Herbert Spencer's *First principles* was published when the author was thirty-two years old. This work made its appearance in 1862. William T. Harris was now twenty-seven years old, a principal of a grammar school, well known in St. Louis, and highly appreciated by the group of students with whom he was intimately associated, but he was not known to the outside world. As soon as Herbert Spencer's new book appeared, he read it and read it again very critically, to be sure that he understood what the author held as fundamental. He prepared a critical review of the work which he read before the Philosophical Club in St. Louis, and he sent a copy to the *Atlantic monthly,* which was declined as he told the writer, but it also appears that Mr. Sanborn offered it to the *North American review,* with a like result. Had this article been published, it is doubtful whether the *Journal of speculative*

*philosophy* would ever have made St. Louis famous thruout the civilized world. Dr. Harris at different times told me that refusal to publish that article made such a deep impression upon him that he decided to start the *Journal,* tho it took all he earned to carry it forward. This enterprise, the most important in a philosophical sense yet undertaken in this country, was carried forward from 1867 to 1893, covering a period of twenty-six years. It would take a large volume to describe the original articles and the translations of important works that appeared in these volumes. Each contribution is of a very superior order. Enough to say that a complete set of this publication can hardly be found for sale in the United States, so rare and valuable is it. Its publication put Dr. Harris in close correspondence with many of the foremost thinkers of Great Britain, Germany, France, and Canada. On a number of occasions we talked over some of their letters, contributions, or books published. However, it must not be inferred that editing and publishing the *Journal of speculative philosophy* occupied his entire time, outside of school duties. In 1867, the year the *Journal* was started, he was elected assistant superintendent of the St. Louis schools, and he entered at once upon a wider field of duties, special and administrative. Superintendent Divoll's health was failing; and while his mind was active his body was weakening. He wanted Mr. Harris to help him. The following year Superintendent Divoll resigned and Mr. Harris was chosen his successor. He had now been more than ten years in St. Louis, connected with the schools. To his new position he brought skill, tact, moderation, scholarship, psychology, and great common sense, all to be applied in the light of science to the schools of the city. He had, moreover, determined the educational value of not only the subjects embraced in the courses of study, but the qualitative values of the schoolroom virtues as well.

*As I knew him*

Such was William T. Harris when I first formed his acquaintance. For years he had thrown himself into the

active life of our country with all the force of his nature. Missouri was just emerging from all the horrors of a civil war, and outside of St. Louis and St. Joseph the people were struggling along heroically but blindly, trying to establish a school system. Educational agencies and energies in the state had first been paralyzed and then destroyed. During this period tens of thousands of families, both Union and Southern, had moved from the state never to return, and now others were coming in rapidly into nearly every section, to make their homes among a population that had past thru what no pen can ever describe, or brush paint. The embers of the strife were still smoldering in almost every community, and he who moved among this combustible material, needed a large measure of circumspection to avoid rousing antagonism. It was true that the colleges where the buildings had been left standing could open their doors, arrange their old courses of study, and invite students to enter, which some did. But the State University was but little more than a Boone County high school, and the graded schools in the towns were without form and void, except children and young men and young women were huddled into rooms, and graded by long measure and avoirdupois weight.

A private normal school had been opened in Kirksville in the autumn of 1867 by Professor Joseph Baldwin, a graduate of Bethany College, West Virginia, a man of large educational experience, keen insight into school work, and of manifold resources, and of indomitable energy. Before opening his school he gathered about him as teachers half a dozen men and women as devotedly consecrated to the cause of education as he was.

Superintendent Harris visited this school often and examined the advanced classes in mental and moral philosophy, logic, physics, and history. From 1870 to 1874 he made regularly two visits a year to this school, and the teachers and students lookt forward with great pleasure to his visitations. He called these visits his recreation, and on our part it was the highest kind of intellectual and social enjoyment. We put all kinds of questions to him on philosophy, involving dark or

troublesome points. He enjoyed greatly the spirit of give and take that was then so rife in that institution. Outside of St. Louis no other persons knew Superintendent Harris so well as did the faculty at Kirksville.

On one of his early visits, I asked his advice on what books to read. The first book that he recommended was C. C. Everett's *Science of thought,* the next Hegel's *Philosophy of history,* and Hegel's *Esthetics.* I had already used in classes Rosenkranz's *Philosophy of education,* the edition translated by Miss Brackett, and published in St. Louis. The *Journal of speculative philosophy* I began reading in 1868, and have a complete set. From this beginning sprang up an intimacy which continued uninterruptedly till his death. Once each year, at either the National Association or the Session of the Department of Superintendence, he and I would get together and talk over the authors that we had each read since our last meeting. In the interval if he or I had read a book of solid merit, no difference on what subject, each would write to the other concerning it. For more than thirty-five years, especially in philosophy, philology, physiological psychology, logic, art, literature, particularly along all international lines, he largely influenced my reading, no doubt as he did that of many others in this country.

As long as he remained in St. Louis, I was with him often. Both were regular attendants at the Sessions of the Missouri State Teachers' Association. Close personal contact with Presidents Reade and Laws of the Missouri University, and the whole-souled, genial Professor G. C. Swallow, Superintendent Harris, Superintendent Soldan, Professor Woodward, Principal Cook, Presidents Joseph Baldwin, George L. Osborne, Miss Anna C. Brackett, and a score of others who represented the very best educational thought of Missouri, if not of the Central West, was a strong formative power to those of us who were feeling our way upward into educational sunshine. Thru all these years Superintendent Harris was the central figure, but many were the mental tilts in these days among these giants.

Thru all these years, he, too, was turning problems over and

over in his mind, and some he told us were over his head. How busy he was one can only imagine. That brain never seemed to tire. His mind, too, worked like a trip-hammer, irresistible, but with the greatest precision. Every subject it touched it illuminated. His series of reports on the St. Louis schools stand alone. He fixt the status of each branch and determined its practical as well as its relative value. He steadied educational thought and penetrated the verities that lie beyond passing appearances. Often misunderstood, and seldom fully comprehended, he worked on, willing to await vindication in the future. He worked just as successfully with men and women as he did with books and ideas. In school management, his theory of control was to have a board close to and fresh from the people, and then to combine the clear-headed and the far-seeing members with the honest-meaning ones without much insight into a compact, honest, working body, and thus leave the selfish looters in a hopeless minority. The idea of independent being, which had taken such a deep hold on him early in life, he applied as a cardinal principle to the school and the home. In this idea implicitly, he saw involved every element that makes for personal freedom and immortality. The people enlightened he trusted. Appeals should be made to reason, tho bubbles occasionally had to be deftly pricked, and this operation he could perform with becoming gravity and with great skill.

Shortly after taking charge of the St. Louis schools, he, Dr. Rickoff of Cleveland, Superintendent Hancock of Cincinnati, Superintendent Pickard of Chicago, and a few others interested in school work, organized a sort of Round Table Conference. At these meetings they compared notes, discust policies, and inaugurated extensions or revisions in courses of study. The kindergarten movement and the natural science lessons of one hour each week, worked out in detail, were the products of his reflections on school betterment. His interests were active in many directions. The St. Louis public library was an object of the deepest concern, and some of his best work was on the classification and the cataloging of books.

During all these years he studied critically the English,

German, and French systems of education, and while recognizing the good in each, he kept his head and feet in modifying some of their methods to suit American conditions.

As much as he admired the sturdy traits in the German character as philosophers, scholars, and a liberty-loving people, and the English because of their poise and self-assertive qualities, yet he was too wise to undertake to Germanize or to Anglicize the schools in St. Louis or elsewhere in this country. He knew intuitively where to take hold and when to let loose. Well satisfied with twenty-three years' work in the schools of St. Louis, he retired and past authority over to other hands. But from 1868 to 1880 what a growth! Only a Harris can measure it. Henry C. Brockmeyer's influence has already been noted, and it continued. A new power, a personal element different from all the other leading spirits, yet having much in common, but representing more fully the world spirit in history, philosophy, art, and literature, a new interpreter who handled his material on other planes and in other spheres, came to St. Louis in 1866, Professor Denton J. Snider. Then there was Thomas Davidson, the scholar for the sake of scholastic attainments. Amidst such an atmosphere as surged about St. Louis for a quarter of a century, beginning in 1858 and still burning there in the minds of some, and elsewhere in this Great Valley, it is not to be wondered at that the St. Louis School of Philosophy under Dr. Harris became a generator of philosophical thought and of artistic culture such as has not yet been paralleled elsewhere in this country, unless by the "Transcendental movement" in New England, or the partial transfer of the "St. Louis School" to Concord, when Dr. Harris went there to commune with those lofty spirits still hovering there. But prior to his departure, he had worked out some of the very profoundest problems in literature in his studies of Dante and of masterpieces in Christian art, based on the decrees of fate which play such a conspicuous part in the dealings of the gods with men and nations; it is no less than the Christian doctrine of atonement in the form that the deeds of the doer are consequences of his own acts, and may purify him. This doctrine he clearly foresaw as

the deepest thing in all literature, and also in the laws enacted by men for the protection of life and property; in fact, all the fundamental institutions of civil society are involved in this conception.

### III. LEAVING ST. LOUIS

He traveled several months in Europe after his retirement from the superintendency of the St. Louis schools, and then made his home in Massachusetts that he might devote himself exclusively to study and literary work. Many in the West felt that it was a sort of forced retirement too early in life. His fame as the leading philosopher, scholar, and educator in America was acknowledged among the schoolmen thruout the country. Literary work kept him busy and afforded him some compensation. He was for forty years the commanding figure in the National Educational Association. His contributions covering this entire active period would fill several volumes, if edited and annotated.

It was at Concord that he changed both his style of speaking and writing. In a conversation the writer suggested that he use short, simple words, in order that the Concord philosophers could understand what he said to them. Some of his ripest thoughts are found in his Introduction to the fifty-eight volumes of *The international education series* which he edited. No doubt, of the books that he wrote and were published, the ones that would stand highest would be his *Introduction to philosophy, Psychological foundations of education,* and his *Critical exposition of Hegel's logic.* What manuscript in an unfinished state he left, I have not heard. With all his other work, it should be borne in mind that for many years he had been the editor-in-chief of Webster's *New international dictionary,* which had just come from the press a short time before his death.

### IV. AS COMMISSIONER OF EDUCATION

A few years before he was nominated by President Harrison for the Commissionership of Education, a vacancy had oc-

curred in the presidency of the Missouri State University. The curators were casting about for a president, and I suggested Dr. William T. Harris, and I communicated with him touching the matter, but he replied in substance—that he was not yet quite ready for burial.

The week President Harrison was inaugurated in 1889, the Department of Superintendence met in Washington. Several city and state superintendents had their political lightning rods stuck up, hoping lightning would strike. With the exception of one man, there was a general feeling among all present that Dr. Harris, if he would accept the position were it tendered him, was, above all others, the man preeminently fitted for the place. We knew all the aspiring ones, so William E. Sheldon, George P. Brown, Albert C. Lane, Nathan C. Schaeffer, and a few others conferred, and I was chosen to sound Dr. Harris on the question. He, Mr. Charles Brown, and I took luncheon together. We were seated in a room alone when Mr. Brown made an excuse to leave the room for a few minutes, under the plea of giving some additional direction to the waiter. In his absence, I asked Dr. Harris if he would accept the position if offered to him? He replied, "Yes, but I can not do anything, or have it done for me, because I do not believe in the high tariff on works of art the Republicans have adopted, and although a Republican, I did not vote for President Harrison." "But," I replied, "if President Harrison will nominate you, and you are confirmed by the Senate, you will accept?" Again, he said, "Yes, but I would tell the President beforehand what I have told you." That afternoon the friends came to me, and I told them that he would accept the position if offered to him.

Without going into details, he became the Commissioner of Education and remained there seventeen years. Later he told me that he told the President frankly what I have already reported. But the President said, "Dr. Harris, that makes no difference; the educators of the country want you as Commissioner of Education!"

His national reports are, as far as I know, the best issued in the world. It, too, was a fitting tribute upon his retire-

ment from this exalted educational position, which he occupied from September 12, 1889, to June 30, 1906, that, owing to his distinguished services in the cause of education, he became the first recipient of an allowance from the Carnegie Foundation for the Advancement of Teaching. During this interval he lived quietly at his residence in Washington till a short time before his death at Providence, November 5, 1909.

*What manner of man he was*

Many stood in awe of Dr. Harris and knew him only at a distance. But those in St. Louis and a few others—outsiders, who in private conversation always called him "Mr. Harris"—knew him as the world never knew him. Personally, he was one of the most gentle and charming of men. Bashful as a young girl, timid almost to a fault, and yet unflinchingly courageous in the advocacy of any principle which he believed to be vital, no difference how formidable the opposition,—thoroly armed and equipped on every subject that had engaged his attention, always courteous and dignified to opponents in debate, never pushing himself forward in a general discussion unless called out,—such were the striking characteristics of this great man. When asked or assigned to perform a duty, he never evaded expressing himself clearly. His mind always worked quickly. Frequently his replies were rapier thrusts, so that one hardly realized the rent till after it was made. But it is of the human side that I now speak:

Once he, Mr. L. S. Holden, and I had been to the Arkansas State Teachers' Association at Little Rock, and we were comfortably seated in our berths on our way to St. Louis. It was in July. An hour or so after leaving Little Rock, we came to the junction, where the train from Hot Springs transferred its passengers to the St. Louis train. The maimed, the halt, the blind, the sick of all other kinds, literally rushed in and overpowered the conductor and porters of the sleeping cars and forced the passengers out. We could not argue or contend with such persons, and we retreated to the baggage car. Dryly he remarked, "There is only one thing for the convalescent to do in a hospital, and that is to play checkers,

but we have no board or men." I said, "You get hold of a piece of paper and make a board, and I will whittle out a set of men." He made a rude board on a piece of paper box, and when the train stopped at the next station, I cut off a few small limbs from a tree and whittled out men. We played in that baggage car off and on the remainder of the afternoon and more than half the night, and then would talk Plato, Aristotle, Hegel, *et al.*, at intervals. He told me he had not played a game of checkers since he was a young man, but he played a good game, and I am sure if he had given some time to it, he would have made one of the noted draught players of the world.

In 1895, we went to Europe together, and on shipboard he formed comparatively few acquaintances. The motion of the ship affected him very much. During each day he and I sat together a great deal of the time and talked. He had an idea that if he could center his thoughts on hard propositions that he would not be sea-sick. He took with him all kinds of appliances for emergencies. In fact, he had books, tools, lamps, and about everything one would need at home or abroad to work with. So I asked him why he took so many things. He said, "One might need them and they were not heavy to carry." On the outward voyage, we sighted Cape Race, and at once he began making a calculation to ascertain how far we were from it, assuming our position to be thirty-five feet above the water. He remembered the formula for finding the amount of curvature of the earth's surface for any given distance, and here he was obliged to have recourse to the converse operation, which is to multiply the number representing the height in feet by one and one-half, and the square root of this product would be the number of miles distant the object would be from the ship. But we used for nearly all our calculations whenever an object came in view, the constant factor 1.317 times the square root of the height of the object exprest in feet. I refer to these calculations as an illustration of the strength of his memory.

When we were in the city of Cologne, he and I slipt away

from the hotel at night to look at the Cathedral by moonlight. We were getting into a position so that we could look at the spire with the moon directly beyond it. Moving around to the position in the rear near a blind alley where hay wagons had stood, a policeman came up and told us that this was a dangerous place and that thieves infested it. We took two or three more short looks, and then Dr. Harris said, "Do you suppose he thinks we belong to that class?"

He was an encyclopedia of information whenever it came to the geography of any section of the country, any noted castle, cathedral, city, or the manners and customs of the people, or how any guild or society had come into existence, and how it had shaped the destiny of any class of people. He literally studied geography and history during the entire journey, besides his remarkable conversations on art and literature.

He, Dr. Brokaw of Springfield, Mass., a lad from Illinois, and myself while in Rome, decided to go into the brass ball on the dome of St. Peter's. The way to get up into it was to walk, and just before getting into this globe, a straight iron ladder had to be climbed in a very narrow chute. It was pretty tight squeezing for Dr. Harris to get up and into the ball. There are four slits or narrow openings in the ball for persons to look out. It was said that it was large enough to hold twenty persons, but we had to get down on our hands and knees and crawl around in a circle, each one looking at a slit at the same time to get good views of the city and outlying country. The heat was stifling. Our positions were ludicrous enough, and as he wiped his face, he remarked, "Four bears circumnavigating the pole star." We clambered down to get fresh air, and it so happened that in getting on the outside of a balcony, two little strips of paper called "Lire" fell from my vest pocket, and the wind blew them away. He saw them and asked me what were these two pieces of paper. I said, "Two Italian Liars." Instantly he responded, "They are not the last of their kind." Many a quiet laugh we have since had over the "Italian Liars," as we both called them.

I recall with great pleasure that on the evening after the close of the Session of the Superintendents' Meeting in Richmond, Va., Mr. Frank A. Fitzpatrick and I called on him at his residence in Washington. Sometime previous I had purchased Bopp's *Translation of comparative grammar* in three volumes, and I was in quest of a good etymological dictionary that would trace words back to the Sanskrit roots and their derivatives. Notwithstanding I have been with him for weeks and months at a time, yet I never heard or read from any philologist anything that approached his conversation that evening, which extended over more than three hours,—on tracing back words to Sanskrit and other roots. When we arose to go, he took each by the hand and said, "No, not yet. You must stay; I will not go to bed till two or three o'clock!" We remained with him till midnight.

He was always solicitous to know what direction one's thoughts would turn, and especially of the promising young men of the country. One case will illustrate this point. The year we went to Europe together, we had hardly cleared New York harbor before he handed me an advance copy of Dr. Butler's address as President of the National Educational Association, which would be delivered in Denver in a few days. He said that he had spent two or three days with Dr. Butler in Washington recently, and that he was in no danger of following wrong ideals either in education or the great problems of life. It grieved him very much when he felt that noble powers were being exercised on low, sordid, or false bearings of life, or that promising young men had gone hopelessly into blind alleys.

The proper correctives for false doctrine were to bathe daily in the great literary classics, and to live with the world's greatest men of all ages—the schoolmasters of the race. They deal, he held, with all the profounder problems of existence.

The very last book he sent me has "J.M.G." written on the outside paper cover in his "blue pencil marks." It is a series of lectures delivered two or three years ago at

the great universities of this country on socialism by W. H. Mallock of England.

I think of Dr. Harris tonight surrounded by his devoted wife and children at Providence, with his mind clear, his body emaciated, contemplating the great questions that had for fifty years engaged his attention.

A born leader who had for more than forty years represented sanity and wisdom in all its movements for the betterment of the elementary, the high schools, and the normal schools of this country,—who stood for the profoundest scholarship and broadest culture,—for philosophy and statesmanship,—was the many-sided friend who has left us. In considering educational problems, he always lookt far into the motives of those who advocated radical changes. Thru all these years he has been a steadying force and a corrective agent of the extravagant whims and fanciful schemes that many enthusiastic reformers would advocate. He was a master of statistical details as well as a generalizer of the widest range of facts. All his reports, special papers, and his masterly discussions before various bodies have the highest educational value. // Not to know his writings as they came from his pen for two score years, is to be ignorant of the greatest educational force America has ever had. He extended the educational horizon and gave it new boundaries and new settings upon every point wherever he touched its circumference. What he said or wrote always contained a wealth of suggestions for all classes of thinkers. // Only three years ago he was our distinguished guest and speaker. He said he was "among his friends again where he felt at home." His was indeed a noble character! In philosophy and educational insight, combined with the very highest endowment of wisdom, he stands alone. But his voice is husht; his hand is cold! Sometime the historian of the future will, when calling the roll of America's most distinguished sons, write the name of William Torrey Harris at the head of the list.

JAMES M. GREENWOOD

KANSAS CITY, MO.

## III

# COLLEGE ATHLETICS AND PHYSICAL EDUCATION

Education as an art and as a science has made considerable progress in recent years, so that one has to explain a great deal in treating of any phase of the matter. It is decidedly technical, and a writer for the layman must lead into the subject, I fancy, very much in the manner of a salesman introducing airships.

The constant desire to revise the program of education has been with us about twenty-five years, and while we have rambled about with rather vague notions of our direction, we have made progress. It is not wide of the mark to say that we (meaning educationists) have always been rather uncertain how to teach and what to teach, and especially ignorant as to the reasonable scope of education.

Our professional wanderings are remembered in phrases, epigrams, and creeds that began before scholasticism, and do not cease with pragmatism. We become glib of tongue in memorizing them and their histories, and our degrees and circumstance seem somewhat dependent upon them. A glance along the road of that progress will make it plain that physical education is not an accidental discovery; it is a consequence providentially postponed until we can understand a little of its significance.

It was not so long ago that we began to talk of social education, socializing the school, and the social elements in the curriculum, because we found the field and subject-matter of anthropology and sociology unappropriated by the modern science of education. We have cooperative and rival deductions concerning the social significance of education, and the security of respective positions has been examined. We are still trying to discover a working adjustment of our theories and beliefs. Human society will probably feel the effects

of our professional and modern aggressive methods before long.

We are beginning to be more hopeful as we view the educational bench marks along the survey and some of our enthusiasm has begun to interest the better types of men to whom education, until very recently, was an inconsequent affair of teaching lessons to children who could be spared or diverted from the economic struggle.

Busy men have had a hazy notion concerning education, and have lookt to it only as a means of decreasing illiteracy, or something of that sort, a little more or less. Practically all of the non-professional and a great deal of the professional criticism and abuse of our public school system has been directed against the intellectual product, chiefly the inaccurate sum of a column of figures, or a "beastly ignorance" of English spelling and composition. (God save us all!)

Whenever there is anything the matter with the body politic, the public rails at the schoolmaster, and each publicist points the finger at the schoolhouse. We have paid little attention to that, and we have been content with perfecting the intellectual processes, holding, as does the layman, that intellectuality is the peculiar specialty of education. Recently, however, we have set about trying to find the real seat of national disorder, and to discover our actual responsibility in the task of making the world better—to discover and to teach, after all the experiments in government, a little of the freedom and the importance of an individual life. In our clinical studies of social diseases and our examination of the manner of stuff from which man is made, we have learned to disregard the jibes against fads and frills, and have become physicians in that wider meaning; so that it is not too much to believe that we, of all men, shall become doctors in fact, and not merely doctors of philosophy.

In the rush of things and in the fatal proximity of the present the educationist must be patient and must wait for recognition of these several lines of investigation, such as social education, moral training, physical education, and their contributory studies.

Moral education and training in our public school program is an excellent illustration of the task and of the manner in which the public takes our work. We must wait until the nervous barbarian whom we serve has received the message thru the popular roar of his lusty press. It will reach him. He reads it under various headings: juvenile offenders and delinquents, increase of crime, graft, sin, misery, and the ceaseless shattering of commandments, legal and moral.

"Why don't you do something about it?" says the layman.

"Why don't you teach them morals, so that they will grow up to behave?" says the busy citizen.

Well, a great deal has been done against great odds, with scant sympathy and much misunderstanding. We are quite well informed today on the quantitative and qualitative exhibit of moral training in the public schools, and we are not resting at any point all along the line, but we have learned not to be exultant as we advance. We have "shifted the emphasis" in the curriculum so often, like boys playing with a red wagon, to see the wheels go 'round, that we have ceased the folly of stopping at any place to admire the discovered fact as if it were a novelty in educational style. We follow with trained eye and keen scent for the next related fact. That next thing which we are learning from the intelligent people about us, from the materials within our special research, and from our labors in social and moral education, is physical education. We take it very sensibly, and are not making half the fuss over it which its importance warrants.

If nothing else is evidence, the fact of increased output of the publishers in the literature of physical education would indicate a genuine public interest in health and care of the body. I have just examined a whole shelf of books (a five-foot shelf) on physical education applied to school and home conditions. Controversy and special pleading are absent, and the writers are agreed upon so much that it is apparent that we have an accepted belief and a groundwork well established.

The idea of a sound mind in a sound body is not unknown to educationists; we have heard it from the lips of anemic scholars often enough. Few of us dispute it. Some concede,

even, that the will, obedience, and all the qualities that make for social efficiency depend largely upon personal and public health. Sanity and health, cleanliness and godliness, right living and righteousness, temperance and poise, muscular Christianity, the strenuous life, the simple life, and a variety of expressions have had some place with some of the people for a very long time. Conduct of life, living according to the code, adjustment to the environment, and all such problems are suspected to be purely matters of bodily health. We in education are ever on the alert for a new light, and a recent statement of the most important thing in the making of men. If there is anything of unusual importance about one thing or another in education, we wish to know it.

Physical education, in school or out in the world, and a number of similar ideas having other names, are quite harmonious in the essentials. We differ little concerning diet, clothing, exercise, and matters of sleep, bathing, physical examination of children, fresh air, sunshine, methods of preventing disease. There is practically no dispute. The physician, the religionist, the sportsman, and even the quack, all agree with our program of spreading the knowledge that will make us well and strong. It has become a national enthusiasm, and, of all the people who believe in physical education and training, the educationists form the only group which has not quite lost its head in the cult of the newest announcement. There seems to be a simultaneous and unusual enthusiasm over the matter of physical education and life. Health is actually fashionable, and the physical test has a much wider application and meaning than formerly.

Human physiology, with legislative and perfunctory thrusts at intoxicants and narcotics, used to be the whole of our program of physical education, and, what we know of the human body (not forgetting the pedagogical attitude in such knowledge) is well described in a brief paragraph quoted from a letter received from a well-known publisher. He says:—

> For some years thoughtful educators have realized that most common school textbooks in physiology were not productive of practical results. A grammar grade pupil may know all the names of all the bones in the

body; give the chemical ingredients of the pancreatic juice; explain the evolution of the bile; enumerate all the muscles from the occipito-frontalis to the flexor carpi radialis, and yet not know the value of pure air, the necessity of cleanly habits, how to prevent disease, how to cultivate habits of body and mind control and scores of facts of practical hygiene that have a direct bearing on correct citizenship.

It is probable that this awakening to the importance of the body and its functions is a permanent rather than a passing idea in education, and it seems likely that much of our psychology now taught in the science of education will have its first satisfactory explanation in the development of physical education, while the layman takes his special interests in public hygiene, food inspection, playgrounds, public baths, water supply, street sprinkling, smoke abatement, child labor legislation, and the like.

Psychology and sociology have been presented as laboratory subjects, but it is expecting too much to look for any real understanding of them in students who see the drift of investigation and demonstration towards the abnormal and morbid—towards disease rather than health. Laboratory conclusions are so frequently at odds with social and educational tradition and standards that one has scarcely sufficient data in experience to actualize the new knowledge, and to confirm the laboratory findings. It may be that the intellectual gap—the unsatisfied mental state of modern students and investigators of the past twenty-five years—has brought about the popularity of pragmatism and humanism. It is certain that the educationist is smitten, or bitten, or dallying with something like pragmatism. He sees first principles in it, and, whether he knows it or not, his enthusiasm for physical education is of the same source. It works in his business; it "functions;" it does something and gets somewhere; it can be felt, handled, and measured. It means sanity and health. Back and forth he can apply physical education to theories in his repertoire, and his theories to physical education. He finds interplay and ideal laboratory method in manual training, plays and games, industrial occupations, school management, moral training, culture epochs, civil government, and nearly all the problems of doing things.

All in all, there seems little doubt that physical education is to take a very important place in the art and science of teaching. From the hands of the specialists it will pass into the possession of the great body of schoolmasters and college authorities, and will become an article in the creed. All this will mean a great change in public school affairs, but the marked influence (almost spectacular) will be displayed in college athletics, in the United States, and I dare say each one of us has something to say on that score.

People who live in colleges and schools, and those who send sons and daughters, are sick of the inconsequent and interminable discussions over athletics—gate receipts, schedules, conferences, eligibility, rules committees, and the vicarious, misrepresentative conditions of sports generally. It is idle to recite the arguments against newspaper publicity by which our athletic heroes wax great and institutions are measured by the length of a punt or a drive over left-field fence. The orgies we have seen and more of which we have heard concerning these heroes and their team mates when they "break training" may be waived just now. The rank professionalism charged against the unfair and ineligible players is of little moment, and the attempt to define professionalism is beside the question—a game of evasion. The real, first objection to intercollegiate athletics is not against the game, but is against its standard of professional excellence in performance of a specialty for which people pay money and on which they lay wagers based on form and professional showing. It has an economic and theatrical existence foreign to educational ideals, wholly apart from the curriculum, completely at variance with the dignity of the institution under whose auspices it makes its parade; it is inimical and harmful to a great body of students, and differs from physical education to a surprizing degree.

A deal of space in newspapers and other print has been given over to arguments calculated to show that team athletics develops sterling qualities and virtues of many sorts in the players. That is undoubtedly true, and it is also true that there are other, very different results. The hard knocks of the

game prepare men for the stern buffets of outrageous fortune, and produce loafers and bad losers. The man learns to keep his temper, and, also, to gouge his opponent when the referee is elsewhere. One writer tells us that the battles of England were won on her cricket fields. Newspapers tell us of the captains who are Y.M.C.A. workers, and who carry their Christian standards into the business of "bucking the line." Printed applause (on the sporting page) is measured out to coaches who prate of purity in athletics, whose mercenaries we have traced from prep-school.

Faculties take a hand in restraint, lose games for a season, quarrel over policies and the definition of professionalism, with anxious and jealous eye on their neighbors, and, finally, surrender to the inevitable or suffer a compromise in which the first defect regains ascendency and is dominant as before, despite rules and conferences and resolutions.

Purity rules have little to do with the relation of athletics to physical education, and when they are made an issue based upon a definition of professionalism, the discussion is idle and the result is inevitably a shift from one foot to the other.

The record of reluctant reform in college athletics is defensive, and is not unlike the records of other reforms from within, intended to meet the objections of a powerful criticism, while the real issue is evaded. The human nature of this attempt to regulate team athletics reminds one of the regulation of a questionable business, when threatened by local option or prohibition—not a change of heart and point of view, but ducking and dodging the attack.

Now, if this were a "fight to a finish" between typical team athletics and physical education over the possession of the student and his public paraphernalia, a contention between rival property men, an analysis of good and bad in team athletics, and the consequent debate might be interesting; but nothing of that sort will enter into the athletic renaissance which physical education portends. Team athletics as the public now pays for it has no chance to plead its case. Physical education has its own program, and there is actually no more contention than between the styles of yesterday and to-

day. Team athletics in colleges has done its work, and indications point to a decadence of its influence in student life, and in institution progress.

There is no mood or room for argument with a belief fortified by twenty-five years of slow growth in the ideas of health and happiness. So many things have conspired to establish the idea of physical education as a national cult, that there seems no doubt that it will take possession of the student as it has already captured the minds of men of affairs. Publications, from newspapers to *Who's who,* never omit the favorite sport or pastime of a subject of a biographical sketch, whenever the information is available, and it is fashionable writing to dwell on the recreations of the great. Duck hunting, tennis, golf, horsemanship, and tales of Muldoon's farm are in favor, and it is incumbent upon a new president to announce his favorite outdoor sport. We are outdoing our English cousins.

In his *Book of sports,* Maurice Thompson says: "The greatest scientists, philosophers, artists, and poets of the world in all ages have been ready to bear testimony to the debt they have owed to outdoor observations. No man is liberally educated who does not know as much about nature as he does about books. The school of the woods and hills, fields and streams, is that from which our greatest thinkers have been graduated."

And of its value as a physical training, Professor Mahaffy says that not athletics of the gymnasium or palestra, but "field sports, hunting, shooting, fishing have produced the finest type of man."

All that is but a part of the outdoor life, and the whole argument need not be repeated.

There is no doubt of the social value of team play, and of games of all sorts, but the competitive system of intercollegiate athletics is quite another thing in which the benefits of team play and the spirit of the game are restricted and subverted to a questionable end, which is certainly not physical education. They are not in the same plane.

It is often emphasized that "the team" is composed of

picked strong men, or skilled men, and that the rest of the student body is barred from any healthful participation in team contests. The system is obviously not for the physical training of the student body. Just as obviously the system is for some other thing in educational institutions, and that thing is going out of fashion in education.

There is an idea behind it all, and that idea is losing its force, its priests, its prophets, and its adherents in education. Educationists and the student groups are not so completely under the spell of the blind worship of winning. The fetich fades in the light of new ideas. The athletic festivals, orgies, and ecstasies are pronounced abnormal in education. A few schools are getting on without the intercollegiate, competitive system, or, they are frankly calling things by their right names. They may or may not have considered the value of organized team athletics, as a device for letting off steam, securing prestige, advertisements, or any other items in administration and progress. However they may look upon it, their graduates seem to be able to "buck the line" with remarkable success; their scholarship has not been impaired; their moral health shows no let-down; and the sale of sporting goods seems not to have diminished in such places, altho the manufacturers no longer pay commissions.

Not the least of the influences now at work to turn men's affections from the rubbing tables and from the referee's whistle is the complete absorption of all spare time from one end of the year to the other. Football, basketball, polo, hockey, track, and baseball (to name a part only) would make a continuous performance at concert pitch; but it flats and does not tread the measure of healthful living. Enthusiasm leads to fanaticism, and on to mania, if one attempts to follow "the team" even in the printed reports. Only the devotee tries it. The tendency of all that is to glut and gorge the student body—to draw a line between the college and the athletic field. One side of that line will become fashionable, because of more than mere majority; the other is for the loud and intemperate hanger-on, pursuing his inconsequent way without destination, but "going some."

More and more, college teams must be recruited from a small part of the student body, and from men who, because of one reason or another, can take athletics as a "major." We all know exceptions, and, no doubt, can name dozens of men who, like Lovering of Harvard (a splendid fellow, dead these many years), were brilliant in class as well as on the field. If, however, one make a list of athletic stars who never took a degree it must be a long one. Compare, from any reliable source, covering the whole of American college records, the number of athletes who have moved on into the alumni with their collegiate degrees, with those athletes who were never graduated, and it will surprize you. The chances are against the ordinary man in college athletics. Remember, also, that many athletes have been graduated with delinquent records, or with special dispensation, because of pressure or popularity, or because of some other influence against which faculties have hardly dared to lift a hand or voice a protest. All that will show plainly enough upon investigation, and the conclusion that not many teams are representative of college life and college purpose is inevitable.

Another feature of the intercollegiate athletic exhibition is the "rooting" and the "college spirit" (the kind that painted John Harvard's statue), without which a contest would be unthinkable to an American. He thinks that whatever changes may occur in college athletics, the war cries, battle songs, and pranks will remain. There may be refinements, but the idea will stick as long as teams meet, and that will be beyond our time. But that matter of "rooting," alone, has done more to bring a question into the minds of gentlemen than all the arguments of all the enemies of intercollegiate athletics, except, possibly, the increasing evil of betting on the team.

The gentleman in America is frequently a college man, and college life and ideals (thanks to the lives and labors of our great college notables) are producing a greater number of gentlemen than the expectancy of any merely formal educational system. There are a great many gentlemen who enter intercollegiate contests, but there are so many of the other sort

that some of us have attached a double meaning and a special significance to Thanksgiving Day, which is usually at the end of a particular athletic season.

Besides the growth of college ideals, the most incongruous and embarrassing situation in college life presents itself to the familiar observer, who knows the players, to see these gentlemen and the other sort fraternize in the game. The comic writers poke fun at the idea of a gentleman in the contest, the sporting editor makes special mention of anything like clean play, officials are primed and forewarned against particular players, the rules recognize and penalize rowdyism, and team mates jeer at the sentiment of clean play and relate private and intimate knowledge to the contrary as they submit to bandage and liniment in the dressing-room.

The word *gentleman* is not always the happiest term to use for the reader, because of some measure of cant and cheap virtue due to an indiscriminate and unfortunate use, but it is so often mouthed in athletic harangue that it is put down here at its athletic face value. Possibly it is as precise as any term to denote a decent man who realizes that barbarism has been left behind in his progress.

The gentleman, then, is an increasingly large and important group in society, within and without higher education. He exhibits an increasing interest in physical education, and a useful body. There is nothing disagreeable in the whole scheme of physical education and personal health; its social, moral, and physical significance appeals to him.

Typical team athletics, with its barbarism and heart-breaking contests, gives his newer nature pause and question. It is at odds with his knowledge of civilization and society. His tendency is away from one kind of college athletics towards another. His worth-judgments select leaders and heroes without athletic bias. He has given over any hope of reforming the intercollegiate competitive system. He is finding out that no such reform is necessary if it were possible. He sees now that the barbarous system is outgrown, and that it is actually a failure in its part of the college plan to make men.

The student, the professor, and the man of affairs have

come to see that both the athlete and the advocate of physical education are right in emphasizing the importance of strong, healthy men. They are beginning to see, moreover, that intercollegiate contests make a great deal of noise, ill will, and waste, with little to show for health, strength, and general results of the desirable kind.

Not only does it appear that the system is out of harmony with educational ideals, but that it actually does not produce men of normal health and strength for the world's work. Instead of developing poise, self-control, and the virtues clustering about, it gives us too many who are idle and restless, and loath to leave the arena; too many ill-bred and unmannerly cubs who dislike to learn the drudgery of business, politics, or the professions; too many who are physically unfitted for the task of earning a living where health and endurance count, and too many who have spent years in college life, yet who have no record of ever having completed anything required by the faculties and committees who grant degrees.

There is surely some way of measuring the health and strength of an institution other than the foreign and misrepresentative system of intercollegiate athletics! It must be that, in alumni, student body, and institution traditions, there are things greater and more permanent than the pennant for 1909! There is surely some way out of the frenzy of things athletic!

The student is beginning to see the way in physical education, and the faculties of educational institutions are plucking up a bit of courage and hope in a situation that promises to solve many questions of discipline and scholarship. Something of the pageant and circus will persist in college life as in all life, but there will be no confusion of educational values with such things when we recognize the importance of physical education as a part of the preparation and education of a man for citizenship and service.

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## IV

## TENDENCIES IN THE CONTENT OF THE COURSES OF STUDY IN STATE NORMAL SCHOOLS

The data here used have been obtained from fifty pairs of catalogs, ten years apart, i.e., 1895 and 1905, and from a questionnaire sent to forty normal-school presidents, representing all the states included in this study. The fifty pairs of catalogs represented thirty states, as follows:

| | | |
|---|---|---|
| Alabama ..... 1 | Louisiana .... 1 | North Dakota . 1 |
| Arizona ..... 1 | Massachusetts . 4 | Oklahoma .... 1 |
| California .... 2 | Michigan ..... 2 | Oregon ..... 1 |
| Colorado ..... 1 | Minnesota .... 2 | Pennsylvania . 4 |
| Connecticut.... 2 | Missouri ..... 2 | Rhode Island.. 1 |
| Idaho ..... 2 | Montana ..... 1 | South Dakota . 1 |
| Illinois ..... 2 | Nebraska ..... 1 | Vermont ..... 1 |
| Indiana ..... 1 | New Hampshire 1 | Washington .. 1 |
| Iowa ..... 1 | New Jersey ... 1 | West Virginia. 3 |
| Kansas ..... 1 | New York .... 4 | Wisconsin .... 3 |

Data secured from catalogs from all the schools in the above states would not represent the status and tendency under consideration so well as that obtained from the smaller list of fifty, for states having many schools, as Massachusetts, New York, and Pennsylvania, would have too great weight. No normal school for negroes nor one not open to both sexes is included in the above fifty. Leaving out these schools there were thirty-six states having schools termed state normal schools in the reports of the United States Commisioner of Education for the years 1895 and 1904. It was impossible to secure pairs of catalogs from schools in the six states not included in the list above, but since the schools in the list are well distributed over the United States, and since no section of the country is without representation, the data secured may be taken as fairly representative of the whole of the United States.

Many different courses are offered in the various state normal schools. Some schools are now attempting to give their students opportunity to specialize for any of the various positions in a public school system, from kindergarten to supervision of a city school system. This tendency to multiply courses is increasing.[1] Many of these courses are specializing in character, and the whole number is too great for consideration here. General courses are more common in occurrence, and in the table below are set forth some facts concerning these courses. No specializing, partial, or so-called elementary course is included.

TABLE I (50 PAIRS OF CATALOGS)

| Length of course in years | Entrance requirements | No. schools 1895 | No. schools 1905 | Per cent. of schools 1895 | Per cent. of schools 1905 |
|---|---|---|---|---|---|
| 3 | Graduation from 8th grade or rural school | 16 | 0 | 32 | 0 |
| 4 | Graduation from 8th grade or rural school | 20 | 20 | 40 | 40 |
| 5 | Graduation from 8th grade or rural school | 3 | 9 | 6 | 18 |
| 2 | Graduation from 3-yr. high school | 3 | 2 | 6 | 4 |
| 2 | Graduation from 4-yr. high school | 19 | 31 | 38 | 62 |
| 3 | Graduation from 4-yr. high school | 9 | 14 | 18 | 28 |
| 4 | Graduation from 4-yr. high school | 2 | 7 | 4 | 14 |
| 1 | Graduation from college | 13 | 11 | 26 | 22 |
| 2 | Graduation from college | 2 | 2 | 4 | 4 |

The disappearance of a three-years' course, based on an elementary-school course for entrance, is evidence that such a course is no longer deemed adequate for the preparation of teachers. The sixteen schools which gave such courses in 1895 now belong in the group offering a four-years' course on the same entrance. The four-years' course on an entrance requiring but a knowledge of the common branches still holds its place, being as frequent in 1905 as in 1895. Some of the schools which gave such a four-years' course in 1895 have added an additional year, but have kept the lower year either as part of the regular five-years' course, or as a preparatory

[1] "Recent tendencies in the normal schools of the United States," by W. C. Ruediger, EDUCATIONAL REVIEW, March, 1907, page 279.

year. The two-years' course, based on graduation from a four-years' high-school course, is rapidly finding its way into the schools, and practically two-thirds of the schools now have such courses.

The one-year course for college graduates does not seem to flourish. There is, in my opinion, little demand for such a course. The college graduate will not go to a normal school. The spirit and traditions of the college are strong forces toward making the college graduate refuse to attend a normal school. For the present, at least, if we are to have college graduates with professional training it will be by some other plan than thru one or two-years' courses in state normal schools. The two-years' courses for college graduates are offered at Bridgewater, Mass., and Albany, N. Y.

In some sections of the country, especially in the Middle West, the difficulty of getting teachers with both college education and professional training has been met by offering in the normal school three- and four-years' courses above the four-years' high school graduation for entrance. There are fourteen schools offering three-years' courses and seven schools offering four-years' courses. The two schools which offered a four-years' course for high-school graduates in 1895 were two schools in Massachusetts. During the ten years these two Massachusetts schools discontinued these courses, and seven schools in the Middle West established such courses. The following schools included in this study offer four-years' courses for high-school graduates: Iowa, Kansas, Nebraska; Ypsilanti, Mich.; Kirksville, Mo.; Warrensburg, Mo., and Edmund, Okla. There are other schools offering such a course, but they are not included in the fifty schools under consideration. These four-years' courses are offered chiefly for the preparation of teachers for the high schools. Some of the three-years' courses are for the same purpose. As has been remarked before, this country is so large and there is such a great diversity in density of population, wealth, number, and kind of colleges and universities, that a uniform practise in entrance requirements and function of the normal school is not to be expected. Some portions may feel no need for the

normal school to prepare high-school teachers, while in other sections, where colleges are scarce and distances are great, the normal school very naturally develops into a school for the preparation of teachers for all grades of the public schools. It is in such sections that the four-years' high-school graduate course has developed.

As has been shown in Table I, the two-type courses are a four-years' course based on graduation from a rural school for entrance, and a two-years' course based on graduation from a four-years' high school. There were forty per cent. of the schools giving the former, and sixty-two per cent. giving the latter course in 1905. The content of these courses is shown in Table Nos. II and III. The four-years' course included in Table II gives but the academic work.[2] It was impossible to separate the academic from the professional work in the two-years' course so that Table III includes all the work of this course.

The work set forth is the required work; if electives are allowed, the subject elected has been indicated. In addition to the subjects included in Table II, Greek was offered as an elective for two years in three schools in 1905. The most frequent electives were the foreign languages, geology, and astronomy. There are sometimes three four-years' courses offered in the same school, differing chiefly in one major subject. These courses are frequently called English, scientific, and foreign language. I have included but one of these courses from each school, and chose always the one called English. Most schools, however, offer but one course.

The students who graduate from the four-years' course rank with the high-school graduates who take the two-years' course; indeed, it more frequently happens that they are better prepared for teaching. They are older and may have several years' experience in teaching in rural schools, while the high-school graduates complete their normal course without public-school teaching experience. The fact that pupils come from

[2] A study of the professional work has been made by William C. Ruediger and published in the November, 1906, number of *Education* and in the March, 1907, EDUCATIONAL REVIEW.

## TABLE II

(15 schools in 1895 and 15 schools in 1905)

Four-Years' Course on Graduation from the Elementary Grades or Rural School for Entrance

| Weeks..... | Yr. | 8–10 | 12–13 | 16–20 | 24–26 | 30–32 | 36–40 | 48–50 | 54–60 | 72–80 | 96–120 | 140–160 | ? | Total schools | % of schools | Av. weeks | Mode weeks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arithmetic .... | 95 | | 1 | 8 | 1 | 2 | 3 | | | | | | | 15 | 100. | 24 | 16–20 |
| | 05 | 1 | 1 | 7 | 1 | | 2 | 1 | 1 | 1 | | | | 15 | 100. | 29 | 16–20 |
| High School Algebra | 95 | | | 1 | | 5 | 7 | 1 | 1 | | | | | 15 | 100. | 36 | 36–40 |
| | 05 | | | | 1 | 1 | 8 | | 5 | | | | | 15 | 100. | 43 | 36–40 |
| Plane Geometry | 95 | | | 5 | 4 | 3 | 2 | | | | | | | 14 | 93. | 26 | 16–20 |
| | 05 | | | 4 | 7 | 2 | 2 | | | | | | | 15 | 100. | 26 | 24–26 |
| Solid Geometry | 95 | 4 | | 6 | | | | 1 | | | | | | 11 | 73. | 18 | 16–20 |
| | 05 | 5 | 5 | 2 | | | | | | | | | | 12 | 80. | 12 | 12–13 |
| Trigonometry. | 95 | 1 | | 7 | | | | | | | | | - | 8 | 53. | 17 | 16–20 |
| | 05 | 1 | 1 | 1 | 4 | | | | | | | | | 7 | 46.7 | 20 | 24–26 |
| College Algebra | 95 | | | 2 | | 1 | | | | | | | | 3 | 20. | 22 | 16–20 |
| | 05 | | | 1 | 1 | | | | | | | | | 2 | 13. | 22 | |
| Reading and Elocution | 95 | 1 | 1 | 7 | 2 | 2 | | | 1 | 1 | | | | 15 | 100. | 26 | 16–20 |
| | 05 | | 2 | 3 | 4 | | 1 | | 2 | | | | | 12 | 80. | 28 | 24–26 |
| Writing..... | 95 | 4 | 2 | 2 | | | | | | | | | 2 | 10 | 66.6 | 13 | 8–10 |
| | 05 | 1 | | 1 | | 1 | 2 | | 1 | | | | | 6 | 40. | 32 | 36–40 |
| Spelling and Word Analysis | 95 | 3 | 2 | 1 | | | | | | | | | 1 | 7 | 46.7 | 13 | 8–10 |
| | 05 | 2 | | 4 | | | 3 | | | | | | | 9 | 60. | 22 | 16–20 |
| Grammar ..... | 95 | 2 | 2 | 6 | | 1 | 4 | | | | | | | 15 | 100. | 23 | 16–20 |
| | 05 | 2 | 1 | 4 | 4 | | 2 | | | 2 | | | | 15 | 100. | 31 | 24–26 |
| Composition... | 95 | 1 | 1 | 2 | | | 1 | | | | | | | 5 | 33.3 | 19 | 16–20 |
| | 05 | | 2 | 7 | | 1 | 1 | | | | | | | 11 | 73. | 20 | 16–20 |
| Rhetoric..... | 95 | | 1 | 8 | 2 | 1 | 3 | | | | | | | 15 | 100. | 25 | 16–20 |
| | 05 | | 2 | 5 | 1 | 3 | 4 | | | | | | | 15 | 100. | 26 | 16–20 |
| Literature..... | 95 | | | 2 | | 3 | 7 | 1 | 1 | | 1 | | | 15 | 100. | 41 | 36–40 |
| | 05 | | | | 4 | 1 | 5 | 2 | 3 | | | | | 15 | 100. | 39 | 36–40 |
| Music.. ..... | 95 | | | 8 | 1 | | 2 | | | | 1 | 1 | 1 | 14 | 93. | 40 | 16–20 |
| | 05 | | 1 | 3 | 3 | | 1 | 1 | 1 | 1 | | | | 11 | 73. | 33 | 24–26 |
| Drawing ..... | 95 | | | 3 | | 3 | 6 | | 1 | 2 | | | | 13 | 86.6 | 45 | 36–40 |
| | 05 | | | 1 | 1 | 2 | 6 | 1 | 1 | | 1 | | | 13 | 86.6 | 42 | 36–40 |
| Manual Training | 95 | | | | | | | | | 1 | | | | 1 | 6.6 | 77 | 72–80 |
| | 05 | | | 2 | | | 2 | | | 1 | | 1 | | 6 | 40. | 58 | |
| Physical Training | 95 | | | 3 | | | | | 1 | | | 1 | 3 | 8 | 53. | 50 | 16–20 |
| | 05 | | | 1 | | | 2 | | 1 | | | 4 | 3 | 11 | 73. | 95 | |
| Commercial Branches | 95 | 5 | 2 | 3 | | | 1 | | | | | | | 11 | 73. | 15 | 8–10 |
| | 05 | 1 | 2 | 3 | | | 1 | | | | | | | 7 | 46.7 | 19 | 16–20 |
| United States History | 95 | 2 | 3 | 5 | 1 | 1 | 1 | | | | | | 1 | 14 | 93. | 18 | 16–20 |
| | 05 | 1 | 2 | 4 | 1 | | 2 | | 1 | | | | | 11 | 73. | 24 | 16–20 |
| General History | 95 | | 1 | 8 | | | 4 | | | | | | | 13 | 86. | 25 | 16–20 |
| | 05 | | | 2 | 2 | 2 | 3 | | | | | | | 9 | 60. | 29 | 36–40 |
| Ancient History | 95 | | | | | | | | | | | | | | | | |
| | 05 | | 4 | 2 | | | | | | | | | | 6 | 40. | 14 | 12–13 |
| Modern and Medieval Hist. | 95 | | | 1 | 1 | | | | | | | | | 2 | 13. | 22 | |
| | 05 | | 2 | 2 | | | | | | | | | | 4 | 26.6 | 15 | |
| English History | 95 | 1 | 1 | | | | | | | | | | | 2 | 13. | 11 | |
| | 05 | | 1 | 4 | | | 1 | | | | | | | 6 | 40. | 20 | 16–20 |
| American History | 95 | | | | | | | | | | | | | | | | |
| | 05 | | 1 | 2 | | | | | | | | | | 3 | 20. | 16 | 16–20 |
| European History | 95 | | | | | | | | | | | | | | | | |
| | 05 | | 1 | | | | | | | | | | | 1 | 6.6 | 12 | 12–13 |
| Civics and Pol. Science | 95 | 2 | | 4 | | 2 | 2 | 1 | | | | | | 11 | 73. | 24 | 16–20 |
| | 05 | 2 | 2 | 3 | 4 | 2 | | | | | | | | 13 | 86.6 | 20 | 24–26 |
| Nature-Study . | 95 | | | | | | | | | | | | | | | | |
| | 05 | 1 | 2 | 1 | 1 | | | | | | | | | 5 | 33.3 | 15 | 12–13 |
| Physiology and Hygiene | 95 | 3 | 1 | 8 | 2 | | | | | | | | | 14 | 93. | 18 | 16–20 |
| | 05 | 1 | 4 | 5 | 1 | | 1 | | | | | | | 12 | 80. | 18 | 16–20 |
| Geography .... | 95 | 2 | 3 | 3 | 1 | | 1 | | | | | | | 10 | 66.6 | 17 | |
| | 05 | 2 | 2 | 4 | 3 | | 1 | 1 | | | | | | 13 | 86.6 | 21 | 16–20 |
| Physical Geography | 95 | 3 | 2 | 4 | 2 | | | | | | | | | 11 | 73. | 16 | 16–20 |
| | 05 | | 5 | 2 | 2 | 2 | | | | | | | | 11 | 73. | 21 | 12–13 |
| Botany..... | 95 | 2 | 3 | 7 | 2 | | 1 | | | | | | | 15 | 100. | 18 | 16–20 |
| | 05 | | 4 | 7 | 3 | 1 | | | | | | | | 15 | 100. | 19 | 16–20 |
| Zoölogy..... | 95 | 3 | 1 | 5 | 2 | 1 | 1 | | | | | | | 13 | 86.6 | 19 | 16–20 |
| | 05 | | 5 | 7 | 2 | | | | | | | | | 14 | 93. | 17 | 16–20 |
| Agriculture ... | 95 | | | | | | | | | | | | | | | | |
| | 05 | 2 | 1 | 2 | 1 | | | | | | | | | 6 | 40. | 16 | |
| Physics..... | 95 | 1 | | 5 | 1 | 2 | 5 | | | | | | | 14 | 93. | 27 | |
| | 05 | | | 3 | 4 | | 7 | | | | | | | 14 | 93. | 30 | 36–40 |
| Chemistry..... | 95 | 1 | | 7 | 1 | 1 | 2 | | | | | | | 12 | 80. | 31 | 16–20 |
| | 05 | | | 7 | 4 | | 4 | | | | | | | 15 | 100. | 25 | 16–20 |
| Advanced Science | 95 | | | | 1 | | | | | | | | | 1 | 6.6 | 25 | 24–26 |
| | 05 | | | 2 | | | | | | | | | | 2 | 13. | 18 | 16–20 |
| Geology ..... | 95 | 2 | | 7 | | | | | | | | | | 9 | 60. | 17 | 16–2. |
| | 05 | | 5 | 5 | | | | | | | | | | 10 | 66.6 | 15 | |
| Astronomy .... | 95 | 3 | 2 | 3 | | | | | | | | | | 8 | 53. | 14 | |
| | 05 | | 1 | 1 | | | | | | | | | | 2 | 13. | 15 | |
| Latin..... | 95 | | | | | | | | | 3 | 6 | 3 | | 12 | 80. | 111 | — |
| | 05 | | | | | | | | | 2 | 7 | 5 | | 14 | 93. | 119 | |
| Modern Languages | 95 | | | | | | | | | 3 | 1 | | | 4 | 26.6 | 86 | 72–80 |
| | 05 | | | | | | | | | 7 | 3 | | | 10 | 66.6 | 86 | 72–80 |

the rural schools, and with four years in the normal school, are equal to, if not superior as teachers, to the town or city students who have spent four years in the high school, and then two years in the normal school, may have, and probably does have, several casual elements not mentioned above, among these being: (1) the high-school course as it is at present formed to meet college entrance requirements, causes considerable loss to the student who enters the normal school; (2) better opportunities for study and better teaching are to be had in the normal school than at home, and in the high school. (Undoubtedly, there are exceptions to this last point.) These two facts, together with the fact that but a very small per cent. of the students in the four-years' course attend consecutively, but frequently consume six or seven years in mixing teaching with attendance at the normal to complete the course, are, in my judgment, the chief elements in the explanation.

As one would expect, this course shows on the whole little change. Being based on the same entrance as formerly, and being little touched by the influence of the high school (since there is a separate course for high-school graduates), the academic needs remain about the same as before. There have been some new subjects introduced and a few are disappearing. These movements are due to changes in the public-school curriculum in the ten years.

Arithmetic, high-school algebra, plane geometry, grammar, rhetoric, literature, botany, and chemistry appear in every course in 1905. Drawing, civil government, geography, zoölogy, physics, and Latin (usually as an elective) are the next most frequent subjects, and appear in more than eighty-five per cent. of the courses. The subjects which might be denominated as increasing in importance are agriculture, geography, nature-study, English history, physical training, spelling, composition, and manual training. The decreasing subjects are astronomy, commercial branches, United States history, reading, physiology, writing, music, and general history. The decrease in United States history, reading, and physiology is due to the tendency to treat these subjects from the professional stand-

## TABLE III

(15 schools in 1895 and 22 schools in 1905)

Two-years' Course for High School Graduates

| Weeks | Yr. | 8-10 | 12-13 | 16-20 | 24-26 | 30-32 | 36-40 | 48-50 | 54-60 | 72-80 | ? | Total Schools | Per cent. of Schools | Av. No. of Weeks | Mode weeks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arithmetic | 95 | 3 | 5 | 2 | | 1 | | | | | 1 | 11 | 73.3 | 16 | 12-13 |
| | 05 | 4 | 10 | 4 | | | | | | | 1 | 19 | 86.4 | 13 | 12-13 |
| Reading | 95 | 3 | 2 | 1 | | | | | | | 2 | 8 | 53.3 | 12 | 8-10 |
| | 05 | 6 | 5 | 4 | | | | | | | 1 | 16 | 72.7 | 13 | 8-10 |
| Grammar | 95 | 2 | 4 | 1 | 4 | 1 | | | | | 1 | 13 | 86.6 | 19 | |
| | 05 | 2 | 6 | 6 | 2 | | 1 | | | | | 17 | 77.3 | 17 | |
| United States History | 95 | 1 | 4 | 4 | | | | | | | 1 | 10 | 66 6 | 14 | |
| | 05 | 4 | 5 | 6 | | | | | | | 1 | 16 | 72.7 | 16 | 16-20 |
| Civil Government | 95 | 4 | 2 | 2 | 1 | | | | | | 1 | 10 | 66.6 | 14 | 8-10 |
| | 05 | 1 | 2 | | | | | | | | | 3 | 13.6 | 11 | 12-13 |
| Physiology and Hygiene | 95 | 3 | 2 | 5 | | | | | | | 1 | 11 | 73.3 | 14 | 16-20 |
| | 05 | | 2 | 4 | | | | | | | 1 | 7 | 31.9 | 16 | 16-20 |
| Geography | 95 | 3 | 6 | 1 | 1 | | | | | | 1 | 12 | 80. | 13 | 12-13 |
| | 05 | 3 | 6 | 6 | 1 | | | | | | 2 | 18 | 81.8 | 15 | |
| Writing | 95 | 1 | | | | | | | | | 1 | 1 | 6.6 | 10 | 8-10 |
| | 05 | 2 | | 1 | | | | | | | 1 | 4 | 18.2 | 13 | 8-10 |
| Music | 95 | 1 | 3 | 3 | | 3 | | | | | 2 | 12 | 80. | 19 | |
| | 05 | 1 | 4 | 6 | 4 | 1 | 1 | | | | 2 | 19 | 86.4 | 20 | 16-20 |
| Drawing | 95 | | 2 | 3 | 2 | 4 | | 1 | | | 2 | 14 | 93.3 | 25 | 30-32 |
| | 05 | | 3 | 4 | 3 | 1 | 6 | | | | 1 | 18 | 81.8 | 26 | 36-40 |
| Manual Training. | 95 | | | 2 | | | | | | | 2 | 4 | 26.6 | 18 | 16-20 |
| | 05 | 2 | 2 | 2 | | | | | | | 2 | 8 | 36.4 | 13 | |
| Nature-Study | 95 | | 2 | | | | | | | | | 2 | 12.7 | 12 | 12-13 |
| | 05 | 1 | 3 | 4 | | | | | | | 1 | 9 | 40.9 | 15 | 16-20 |
| Review Algebra | 95 | 6 | 1 | 1 | | | | | | | 1 | 9 | 60. | 11 | 8-10 |
| | 05 | 1 | 4 | | | | | | | | 1 | 6 | 27.3 | 11 | 12-13 |
| Review Geometry | 95 | 1 | 2 | 3 | | | | | | | 1 | 7 | 46.7 | 15 | 16-20 |
| | 05 | 1 | 2 | | | | | | | | 1 | 4 | 18.2 | 11 | 12-13 |
| Solid Geometry | 95 | 1 | | 3 | | | | | | | | 4 | 26.6 | 16 | 16-20 |
| | 05 | | | | | | | | | | | | | | |
| Elective Mathematics | 95 | 1 | | 1 | | | | | | | | 2 | 12.7 | 14 | |
| | 05 | 1 | | | | | 1 | | 1 | | | 3 | 13.6 | 35 | |
| Composition and Rhetoric | 95 | 1 | 1 | 3 | 1 | | | | | | 1 | 7 | 46.7 | 17 | 16-20 |
| | 05 | | | 3 | | 1 | | | | | 2 | 6 | 27.3 | 17 | 16-20 |
| Literature | 95 | 1 | 4 | 3 | 1 | 1 | 3 | | | | 1 | 14 | 83.3 | 22 | 12-13 |
| | 05 | | 6 | 4 | 3 | | 2 | | | | 1 | 16 | 72.7 | 20 | 12-13 |
| General History or Anc. and M. | 95 | | 4 | 1 | 3 | | | | | | | 5 | 33.3 | 17 | 12-13 |
| | 05 | 2 | 1 | | | | | | | | | 3 | 13.6 | 11 | 8-10 |
| Sociology | 95 | | 2 | | | | | | | | | 2 | 12.7 | 12 | 12-13 |
| | 05 | 1 | 2 | 2 | | | | | | | | 5 | 22.7 | 14 | 16-20 |
| Botany | 95 | 2 | 3 | 2 | | | | | | | | 7 | 46.7 | 12 | 12-13 |
| | 05 | 1 | 3 | | | | | | | | | 4 | 18.2 | 12 | 12-13 |
| Zoölogy | 95 | 1 | 2 | 4 | | | | | | | | 7 | 46.7 | 17 | 16-20 |
| | 05 | | 3 | 1 | | | | | | | | 4 | 18.2 | 14 | 12-13 |
| Physics | 95 | 1 | 1 | 5 | 2 | | | | | | 1 | 10 | 66.6 | 19 | 16-20 |
| | 05 | | 2 | 1 | 1 | | 1 | | | | 1 | 6 | 27.3 | 21 | 12-13 |
| Chemistry | 95 | | 4 | 4 | | | | | | | 1 | 9 | 60. | 15 | |
| | 05 | | | 2 | | | | | | | 1 | 3 | 13.6 | 18 | 16-20 |
| Elective Science | 95 | | | | | | 1 | | | | 1 | 1 | 6.6 | 38 | 36-40 |
| | 05 | | | 1 | | | 2 | | | | | 3 | 13.6 | 31 | 36-40 |
| Elective Academics | 95 | 1 | | | | | 1 | 2 | | 1 | | 5 | 33.3 | 44 | 48-50 |
| | 05 | | 1 | | | | 2 | | 2 | | 196w | 6 | 27.3 | 67 | |
| Biology | 95 | | | 1 | | 1 | | | 1 | | 1 | 4 | 26.6 | 33 | |
| | 05 | | | 2 | | 1 | | | | | 1 | 4 | 18.2 | 22 | 16-20 |
| Psychology | 95 | | 2 | 5 | 4 | 1 | 1 | | | | 2 | 15 | 100. | 22 | 16-20 |
| | 05 | | 2 | 7 | 7 | 2 | 2 | | | | 2 | 22 | 100. | 23 | 24-26 |
| General Method or Prin. of Teaching | 95 | | 2 | 5 | 1 | | | | | | 1 | 9 | 60. | 17 | 16-20 |
| | 05 | 2 | 7 | 4 | | | | | | | 2 | 15 | 68.2 | 14 | 12-13 |
| School Management | 95 | 4 | | 2 | | | | | | | 5 | 11 | 73.3 | 13 | 8-10 |
| | 05 | 4 | 6 | 1 | | | | | | | 3 | 14 | 63.6 | 12 | 12-13 |
| Practise Teaching | 95 | | | 1 | 2 | 2 | 4 | 1 | 1 | 3 | 1 | 15 | 100. | 30 | 36-40 |
| | 05 | | | 1 | 3 | 2 | 5 | 2 | 2 | 5 | 1 | 22 | 100. | 49 | |
| History of Education | 95 | 2 | 4 | 3 | | | | | | | 1 | 10 | 66.6 | 14 | 12-13 |
| | 05 | 1 | 8 | 7 | | | | | | | 1 | 17 | 77.3 | 15 | 12-13 |
| Special Methods | 95 | | 2 | 1 | | 2 | | | 1 | | 1 | 7 | 46.7 | 27 | |
| | 05 | | 4 | 2 | | | 2 | | | | | 8 | 36.4 | 20 | 12-13 |
| Pedagogy | 95 | 1 | | 2 | 2 | 1 | | | | | 1 | 7 | 46.7 | 21 | |
| | 05 | | 3 | 1 | | | | | | | | 4 | 18.2 | 14 | 12-13 |
| Philosophy of Education | 95 | 1 | 3 | | | | | | | | | 4 | 26.6 | 12 | 12-13 |
| | 05 | 1 | 2 | | | | | | | | 1 | 4 | 18.2 | 11 | 12-13 |
| Observation | 95 | | | | 1 | | | | | | 3 | 4 | 26.6 | 25 | |
| | 05 | 2 | 1 | 2 | | | 3 | | | | 2 | 10 | 45.5 | 22 | 36-40 |
| Physical Training | 95 | | | 1 | | | | 1 | | | 2 | 4 | 26.6 | 34 | |
| | 05 | | 1 | 2 | 4 | | 3 | 1 | | | 4 | 15 | 68.2 | 28 | 24-26 |

point. Astronomy is disappearing, no doubt, due to the opinion that as it has been taught it contributes little of value to the prospective teacher. Music is still lookt upon as a gift, and so does not find a place among the subjects all must take. General history is given under another name, while writing tends to be correlated with other subjects. The decrease in commercial branches may suggest that we are passing out of the stage of the normal school with a business college attached.

Writing, spelling, music, civil government, nature study, and agriculture are all very unsettled in amount, no marked mode appearing. It would seem pretty generally true that incoming and disappearing subjects are unsettled in the amount of time they receive.

In addition to the subjects included in Table III, two schools required twenty-five weeks of college algebra, one school twelve weeks of agriculture, two schools physical geography, two geology, and two logic.

The two-years' high-school graduate course, on the whole, shows a decreasing amount of academic work of high-school and college grade, and an increasing amount of time given to the pedagogical study of the subjects of the elementary grades, and to the teaching of such subjects as manual training, nature study, and music, which are frequently not taught in the high schools. The following eleven studies appear in more than seventy per cent. of the courses: arithmetic, geography, music, drawing, reading, grammar, United States History, literature, psychology, practise teaching, and history of education.

The averages in the table may be misleading, as averages frequently are. The average amount of electives allowed in this course in 1895 was forty-four weeks, i.e., fifteen per cent. of the two years' work; in 1905 it was thirty-six weeks, or twelve and one-half per cent. This might lead one to conclude that the tendency to prescribe the content of this course is increasing. This is markedly true in the East and in California. In these states practically all the work is prescribed, and consists of the strictly professional courses and reviews of the branches taught in the elementary grades. In the Middle West the type two-years' course contains fifty per cent. strictly professional and reviews of elementary branches, twenty-five per

cent. of required academic work of college grade, and twenty-five per cent. free elective. This plan gives opportunity for specialization, and also recognizes scholarship as contributing to teaching efficiency.

There is a growing feeling, evidenced in the lengthening to three and four years, that a two-years' course is quite inadequate. It is, at best, but a temporary expedient. If education is anything more than an art to be practised, if it has back of its difficult art a large body of theory, as do the professions of law and medicine, then, inevitably, the course for teachers will lengthen from two years to four years, just as has been true in the other professions. If the fees of lawyers and doctors were as low as those of the rural school and elementary-grade teachers, I suspect we should still be in the era of the two-years' law and medical schools, and even in that of "reading" law and medicine. No one should be more conscious than the presidents and faculties in the normal schools of the inadequacy of the preparation which can be given in two years. The normal school, like other schools, has limitations set on it by circumstances. The normal school is yet young; it has led a very precarious existence, having had, till quite recently, to fight for its life. In many states the method of financial support makes the normal school's condition still precarious. In referring to the experiences of normal schools, Dean J. E. Russell said, "they have been knocked about by politicians, starved by legislators, ignored by 'scholars,' despised by 'practical educators."[3] What wonder, under such treatment, the normal school is timid and conservative; too timid to claim its own original rights, and so conservative that it has not at all times responded to the increased demands of an expanding public education.

Since this study covers the decade ending with 1905, it does not take into account the changes since that date. In view of the present wide-spread establishment of departments of domestic art and domestic science in normal schools, the introduction of these subjects is doubtless the most marked recent development. It is also a significant fact that as recently as 1905 not one of the fifty schools included either of these subjects in its course of study.

TULANE UNIVERSITY JOSEPH M. GWINN

[3] *Teachers College record*, Vol. I, p. 8.

## V

## THE CRITICAL PERIOD FOR THE AMERICAN COLLEGE

The history of the American college for two centuries and a half from its founding is the story of steady evolution, growing into and adapting itself to the life of the nation, without violent shock or radical change in any particular phase. It was the cap-stone of the educational system, and so the record of higher education in the country during that time considers little but the college. Then began the changes whose effects have become so marked. The professional schools became post-graduate schools, technological schools were established, and the German university course was introduced and added as a graduate school to the American university. All this increased the years necessary to many men for preparation for work. Various methods were devised and are being agitated with increasing insistence, looking toward the introduction of men to their work at an earlier age, and these propositions invariably rest ultimately upon vital modification of the college. It is evident that the acceptance or rejection of the plans proposed will be determined in the near future, and it can not be doubted that the outcome will depend upon the efficiency of the American college in its present form to meet the needs of our national life, and the ability of the college to produce men to perpetuate itself. The present may well be called, then, the critical period for the American college.

The last quarter century has seen not only a striking increase in the number of students in attendance at all of the older institutions of higher education, but also an expansion almost beyond belief in the younger institutions. Moreover, not infrequently, here or there, in Mr. Corbin's phrase, "a

university by enchantment" has arisen and assumed its large responsibility. Not only is the number of men enrolled in all of these greater than ever before, but also thruout the country a larger proportion of young men are going on in education to the higher reaches than at any previous time. The columns of the press attest the public interest in higher learning, and verification abounds of the recent utterance of *Life* that "the interest in colleges in this country must far exceed any concern in institutions of learning that the world has ever known before."

Within a comparatively brief period new factors have entered, and changes have taken place that vitally affect the whole structure of learning up from the foundations. Great educational trusts have been formed, like the Carnegie Foundation, which modify while they benefit; and the contingency is not to be lightly ignored that another quarter century will show that, to the extent to which aid has been welcomed, individuality has been sacrificed. Meanwhile, administrations are changing with a rapidity which will, before long, bring into the leadership in education a group of men outnumbering those experienced in the service,—a group whose policies are yet to be shaped, and whose powers are yet to be tried. To disregard the fact that a transition period is upon the world of education is to be blind, but to regard it with anxious thought, unfortunately is not to see the end.

The right to preservation of any particular type of institution is one of which proof is going to be required. The public interest is not simply curiosity; the educational system of the country is subject to intelligent scrutiny as never before. And the determination of leaders in education is becoming constantly more fixt upon defining efficiency and upon finding methods to increase efficiency. The two questions which must be answered by any given educational establishment are, "Ought the type to be preserved?" and "Can the type be preserved?" and to the extent to which the problem is understood and weighed by the different factors concerned—administrations, faculties, and alumni—to that extent will the finding of the correct answers be facilitated.

Thruout the land, everywhere there are colleges. These take men when they have completed four years of preparatory work in the high school, or its equivalent, at about eighteen years of age, and offer to them a four-years' course of study within which they may specialize to the extent of preparation for the professional schools and the graduate schools, or within which they may roam with some freedom in search of general culture. Mr. Flexner's description of the elective system, "It impoverishes and isolates by excessive and premature specialization where it does not waste by aimless dispersion"—points to a danger, but not of necessity to a fact. Not all men, or even a majority of men in the colleges, fall into either of these alternatives. Needless to say, the elasticity of a curriculum which will allow these options can hardly prevent some insistent men from finding ease. This is incidental to the system, but is not an indictment of it, so long as the college turns men out at the end of four years better qualified to contribute to life and to derive benefit from life than would have been the case after four years spent otherwise.

Of course, the place of the college in the educational system requires that, whatever its large mission, it shall carefully guard the interests of those who are seeking, in the general training of the college, preparation for the special training of the university. Only in this way can the rights of those who are to become seekers of the truth be conserved.

But there is striking unanimity among American college presidents in putting emphasis upon the fact that a vital function of the college is to prepare for citizenship. Citizenship demands not only intellectual power, but also social force. If we accept this, we come at once to the fact, heretical as it sounds, that in the college, unlike the technical school, the professional school, or the vocational school, the content of the curriculum is not an all-important factor. The courses of study in the American colleges have radically changed from time to time, but the products of the colleges have not been unlike in one era and another. The environment in which the studying is done is the vital thing—but the environment

is dependent on the method of the curriculum, tho not upon its content. College life has been at all times enough a microcosm to put its stamp upon college men and to introduce them into the social life of the nation at an advantage. Admittedly, the curriculum should be adapted to producing the intellect of fiber and high potentiality, but its requirements should not be so drastic as to deny all else. Naturally, the poise is delicate here.

The vice-president of one of our great railroad systems has said recently, "I may say this: that generally the men who will direct big enterprises of the future are the men in college today. While not all of them, of course, will rise above mediocre positions, some of them will bring to the big tasks of railroading the trained minds and the knowledge which the problems of the business demand. He who hasn't the proper training for such big work has no chance at all. It's far harder today for a man to rise from the section gang or train crew to the presidency of a railroad than it used to be. I myself would send my son to college, if only for the environment and the associations he would get there."

But a great danger to the college lies in the failure of some graduates and many undergraduates to understand that environment implies something surrounded, that it necessitates something as a center,—in college life, the curriculum. If the diversions of undergraduate life are allowed to encroach beyond the point of subordination, college life loses its distinction and becomes the atmosphere of athletic professionalism, the dilettanteism of the idle, or the trifling converse of the club. Thus training is ignored and discursiveness is bred, conditions under which our colleges can not stand and ought not to stand. The curriculum, therefore, assumes at once its large importance to the lover of the college. It demands the most full and careful supervision from those whose responsibility it is, and it requires the thorogoing respect of all others. Only thru this door can admission to college environment, to college life, be gained.

The social force in education is found in the colleges. The American university of first rank has not found any

satisfactory substitute for the social life of the college, tho this has been earnestly sought. For instance, in endowed universities of power, and in state universities of high prestige, halls have been projected and built at large expense for social headquarters, that social life might be acquired. But in spite of all things, the spontaneity of college life is lacking, and that it is lacking is acknowledged to be a defect.

It means much to be a Harvard man, because of the tremendous social force of Harvard College, and so cases might be multiplied. The graduate schools or professional schools of many a university force heartiest admiration, but a graduate of Yale, Princeton, or Dartmouth studying in the schools of Cambridge or New York could not be led to call himself a Harvard man or a Columbia man, despite the pride that an undergraduate at either college justly feels in the title. The schools of the universities appeal to the head, but the heart is influenced in the colleges. So long as sentiment is acknowledged of value, so long as the inculcation of ideals is vital, for such time must the college be maintained for the sake of scholarship no less than for the sake of citizenship.

But in what form shall it be maintained? Some say that it must be radically changed, that its last two years must be given over to the graduate schools and professional schools, and that its first two years shall be taken from the burden of the preparatory schools, and thus the youth shall enter college at sixteen instead of eighteen. But such a solution ignores and is unfair to the large per cent. of men who receive in the colleges their final training, preliminary to lifework. Is it, moreover, necessary or likely? May the college not be, as it aims now to be, a training to teach man how to live in appreciation of those things around him—to find in what he sees, what he hears, what he reads, or what he thinks, contentment? Shall the graduate, from knowledge of the world's accomplishments thru ages gone, be equipped to meet problems to come? Shall he take his place as a citizen of the world with the knowledge of culture within him, as the graduate of the medical school has knowledge of anatomy, or the engineer has knowledge of mathematics? If so, the college

will be maintained, as now, a course paralleling the courses of technological and vocational schools, and giving to many men the final training for life, while at the same time for many more it will furnish the basis of culture to which graduate or professional training shall be added. Quotation has been made earlier from Vice-President T. E. Byrnes of the New York, New Haven, and Hartford Railroad, and these further words are his:

"I think most young men of today are rushed thru their schooling and then out into the world. The older boy may not learn any more rapidly than the younger, but he digests his knowledge better.

"For the executive positions which railroading has to offer to young men, broad training is absolutely required. I think it is even better than technical training, for a technical man is too often interested in his own particular branch, and in railroading there is more than one branch. It must be the man who can grasp all branches who rises to executive positions."

The university courses can not be as those of the college. The university may afford a knowledge of ethical standards, but ideals are more the part of the college; the science may be acquired in the former, but the art belongs particularly to the latter. Intuitions of right are the surest foundations of righteousness, and the possibility of implanting these is especially the part of the college. The responsibility of the college, which takes the youth in his adolescence and carries him thru to the threshold of manhood, is only surpassed by its opportunity. Its distinctive function is to train for citizenship, and for this end there is nothing else so well adapted; and for this end it would not be so well adapted in any other form yet suggested.

What is the reason, then, for apprehension? Why the question concerning the college: can the type be preserved? Alumni are loyal beyond precedent even; trustees have never been more solicitous to faithfully discharge their trusts; presidents are sought and selected by eyes keen to find men of the rarest promise. The answer is that the danger to the

perpetuity of the college lies in the necessities under which men receive their training for college teaching.

The American college is a development of the arts course, with its roots reaching back into the English college, and its purpose has been, from the beginning, to give general training. Upón the arts course, thus developed, there was superimposed, about thirty years ago, the graduate school, modeled closely after the German university, and subject to the like spirit, that of special training. The atmosphere of the college and the atmosphere of the university have little resemblance one to the other, and they can not well have, for they are established for unlike ends.

It is not unjust that the man who is to teach in the college should be required to spend time in special preparation, for that is demanded for any of the professions. From a reservoir of knowledge acquired in advanced study, he should be able in the classroom to give to the exceptional student stimulus to fulfil his mission, as well as to maintain his own inspiration for contact with those less alert or less mature. Hence, it has come about that he who would teach must have the token of graduate work. Inasmuch as the doctorate of philosophy requires the most exacting work, the Ph.D. degree has therefore come to be the preferable token. Thus the process has developed by which the college teacher of the present day becomes eligible to his position. We therefore have the anomaly of a degree, which is in no sense a college teacher's degree, being sought almost exclusively as a basis for college teaching. In operation the course leading to the doctorate of philosophy at the present time is as much a professional course as the law course or the medical, yet it is without adaptation to the professional needs.

The change in the manner of men in college professorships a generation ago and now is emphasized in the columns of every paper and magazine which comments upon educational subjects. In colleges, also, colleagues see the tendencies in others to which they are blind in themselves. The phonologist deplores the passing of the botanist who taught the beauty of the realms of nature, replaced by one who studies under a

microscope the cross-section of a stem; while the biologist prefers that the literatures of Greece and Rome shall be presented in all their grandeur, rather than that the emphasis shall be put on obsolete roots.

Speaking of the teacher in the college of former days, President Pritchett says, in the *Atlantic Monthly* for December, 1908:

> The old time college teacher was a man who had, above all else, intellectual enthusiasm and intellectual sympathy; his learning touched many fields, and all with a sympathetic and friendly spirit; and his work consisted largely of bringing into the lives, and into the intellectual appreciation of his students, his own sense of learning and of civilization and of social relations. For this work there was needed, not primarily a man of research, but a man of large comprehension, of wide interests, of keen sympathies, and of discriminating touch. . . .
>
> I am the last man to wish the spirit of research dulled. We need in our universities, above all else, the nurture of this spirit. What I wish to emphasize is this: the college and the university stand for essentially different purposes. These distinctions are almost lost sight of in the confusion of our educational organization. Research is a word to conjure with, but in the last two decades more sins have been committed in its name against good teaching than we are likely to atone for in the next generation. We must, if we are to retain the college as a place for general culture, and the university as a place for the promotion of scholarly research and for professional training, honor the college teacher for his own work's sake, and honor no less the investigator in his own field.

The columns of the number of *Science* for November 27, 1908, contain words to the same effect:

> A general survey of the institutions of learning, large and small, thruout the land, leads to the painful conclusion that our faculties no longer, as they once did, represent groups of cultivated men. The word "culture" has fallen into disrepute in our day; but the cultivated man, while we no longer aim to produce him, demands and receives our respect and admiration wherever he is found. It would not be difficult to cite a few notable survivals of the type here and there. The rarity of teachers of this kind in our college and university faculties to-day will be readily admitted by all who have any intimate knowledge of the matter. Yet the desirability of having such men as instructors of undergraduate students is keenly felt by those who have to choose a college for their sons. The function of the undergraduate course is precisely to give the student what he will not get when as a graduate he enters the special field of his life work; there-

fore the undergraduate course should give the student a general enrichment of life; which is exactly what we mean by cultivation.

But we are content at present that the highest product of our educational system should be the specialist; a man usually thoroly conversant with one small branch of learning, and fairly well acquainted with some allied subjects, but often ignorant in every other field of human interest, without ideas of his own in any field but his own, and dead to everything that can be classed as the amenities of life—the arts, literature, human society.

Probably it is not fair to let this quotation stand as a picture of the usual faculty member of the present day. Many men rise to the needs of the positions which they occupy, and the man of general culture, of broad sympathies, and of inspiring teaching ability is still found in the college, and almost invariably, it may be added, in the positions of influence. Such men, tho, are as they are in spite of their training rather than because of it, and are the exceptions and not the rule.

Any criticism of the results of the course leading to the doctorate of philosophy from one not holding the degree is considered to be presumptuous, in general, by those who hold it, but "by their fruits ye shall know them" has long precedent for being considered a basis of judgment, and he would be a bold lover of argument who would contend that the results have justified the situation in which the doctorate of philosophy, good as it is for its own purposes, stands as the "open, sesame" to position as a college teacher. The possession of the degree has the two great advantages of certifying to three years of advanced study, and of indicating a capacity for close and accurate work and the consequent discipline. It has, for colleges, the disadvantages that it ignores breadth of knowledge while it seeks depth, it disregards the general in its search for the particular, it forms the habit of acquisition of knowledge without regard to its dissemination, and it makes for research rather than for culture. The characteristics of the degree have great value in the proper place. The fountains of knowledge would be dry and inspiration would be nil, were it not for the men who have lived and worked, imbued with the spirit of research; and

it is from the results of their labors that we get much of the raw material from which culture is made. But the training which fits men for accomplishment of such sort inevitably tends to make them impatient of the work and methods necessary to college teaching. President Seelye, in a recent report, speaks of tendencies in college faculties which may need repression:

> One is the disposition on the part of those who have taken post-graduate degrees in universities to employ unduly university methods in their instruction, and to overlook the difference in the maturity of mind and the end to be sought, between undergraduates in colleges and those pursuing graduate courses in universities.

A great defect, already evident, in bringing the university methods into the college is that the college spirit of obedience to the curriculum is destroyed without transplanting the university spirit of enthusiasm for work. The college must preserve the inviolability of a worthy curriculum, whether from the negligence of graduates or from the neutralizing modifications of university processes. It can not be argued that the college should be untouched by the university influence, or that no men of Ph.D. training should be numbered among its teachers. This would be folly. But it is a fair and a necessary contention that the university should not dictate the life of the college.

The opportunity of the faculty for influence upon the college is not excelled. They are in constant contact with the student-body, and they exercise a perpetual oversight with regard to the curriculum. When they choose to have it so, their social prestige with the undergraduates is large. It becomes, therefore, a matter of vital concern as to the principal sources of supply from which instructors are to be sought. The hope has frequently been exprest that our universities would institute courses more adapted to fitting men to teach than is the doctorate of philosophy, but it has not been done. It is not probable that the requirements for this degree could be sufficiently altered to produce the desired results without sacrificing too much of the spirit of research and investigation, for which the degree ought to stand. The suggestion has

been made that the colleges should draw their teachers from the secondary schools, but obvious objections are evident at once to this. Is it, then, possible for the colleges to train their own teachers? The misfortune of in-breeding would then arise, and steps would necessarily be taken to offset it, but the increasing danger to the principles of collegiate training, thru university influences, would be eliminated. It would be a far preferable solution if some great university would make provision for training for college teaching. Perhaps none could do it as well as Princeton, with the spirit of the college strong within her, and the resources of her preceptorial system at hand. In the absence of such provision elsewhere, some college of strength must do it. It will be an undertaking of great cost, and one requiring large administrative perspicacity. It will necessitate the development of the college which undertakes it to the rank of a collegiate university. But for the perpetuity of the type these things may become imperative, and if so, the institution in which the project is undertaken will be reduced to the paradoxical situation that in order to avoid becoming a university by remaining a college, it will remain a college by becoming a university.

ERNEST MARTIN HOPKINS

SECRETARY OF DARTMOUTH COLLEGE

## VI

## THE NEW DEFINITION IN PHYSICS[1]

The subject of the new definition in physics as formulated by the College Entrance Examination Board, is one which I hoped I had washed my hands of some time ago. You have this definition in print before you, and now the question is, what are you going to do with it? That is a question for the teachers to decide, and not for those who framed it. I wish you, therefore, distinctly to understand that what I have to say is simply the expression of my personal opinion. I am not authorized to act as spokesman.

This definition was not intended to be revolutionary in its character. It was simply intended to be a step in advance and in accord with the best current practise in teaching physics. You will remember that, preceding the appointment of this committee, there was appointed by the board a committee of ten, consisting of both college men and schoolmasters. They drew up a very careful report, which was approved by a large majority; nevertheless a minority report was also handed in. The College Entrance Examination Board did not know just how to handle these two reports; but since the minority had suggested that it would be satisfactory to them to have the matter referred to a group of schoolmasters, we were appointed, and started with the report of the majority as a basis.

You may ask where that report came from? If you will examine it, you will see it was based largely upon the New York State syllabus. Where did that syllabus originate? Surely not in somebody's head over-night. That was based on the Harvard List of Experiments. You will thus see that

[1] An address before the Schoolmasters Club of New York, November 13, 1909.

the report of our committee is really only a modification of the older definitions.

The next point I wish to make clear, if I can, is that this report is not necessarily good because it was made by schoolmasters. I objected very strongly to the appointment of this committee of schoolmasters. I was in favor of accepting the majority report. I do not feel sure that schoolmasters in general are any more competent to prepare the college entrance examinations than the college men who have to deal with the question. It seemed to me that the best way was by cooperation on the part of college men and schoolmasters.

I am not one of those men who believe that the old definitions in physics were entirely bad. Doubtless, in the past the definition was sometimes interpreted so that the *results* were bad, but the definition itself was not bad. In this report we have possibly stated the definition a little better. It has been stated that the old definition was unsatisfactory because so many applicants in the board's examination in physics failed, —that between sixty and seventy per cent. of them failed. I think you will find, on looking up the actual figures, that this was true for only one year, June, 1907. That year we had an entirely new group of men as examiners, and the results showed their lack of experience. This same thing may happen under the new definition, or any definition.

There are a few things which this definition is *not*. I do not hear any one who has read this report of the committee say that we have made physics a "snap." Altho the complaint has always been that physics was too hard, yet it was not our intention to make physics an easy subject. We desired to emphasize the fact that physics is an organized quantitative science.

We did not make this definition as a guide for the experienced teacher. We intended it for the man or woman who has just come from the college and is entering the teaching field for the first time. We thought this definition might help the inexperienced teacher in starting his work more profitably. We felt also that it might help the examiner, i.e., the man who makes the papers. In the average textbook on

physics, we find that the field covered is almost unlimited: we thought it worth while to select a few things which every teacher should touch upon, and which the examiner would have the right to use as a basis for his paper. This should not be understood as indicating that the paper is to be confined to this definition alone. We tried to give the utmost freedom to the teacher in his work.

In the first outline which we made, we omitted entirely all practical applications; then fearing that this might be misunderstood, we suggested a few of the most important applications, and exprest the hope that each teacher would add liberally to the list. It is hard to see how one can teach abstract theories without applications. Applications come first, so that the students may know what the teacher is talking about; they also come last, so that the pupil can see what the theory means. So to leave out the practical applications would make it impossible really to teach the theories.

We also had in mind that this grade of physics instruction would be most profitably done in one of the last two years in the high school. It seemed to us that the kind of physics which was desirable to give the students,—those who might go to college or technical school and those who might leave school at once,—was a different sort from what would be given in the earlier years in the high school, where the pupil would be hampered because of his lack of training in algebra and geometry.

Now for a few of the things which we *did* have in mind: In the first place, the list of topics is a MINIMUM list. No one should get the idea that it is all one should teach. Then, too, the time allowance is the barest minimum. We thought that no one could do satisfactory work with less than five periods a week, with at least one of these a double period. In some of the best schools there is a double period for physics every day in the week, or ten periods in the school program. So, considering conditions all over the country, we felt that we were making a very modest minimum. You have, no doubt, noticed that there are a great many questions in regard to physics teaching which are not considered in

this report, such as the laboratory examination. This was discust, but it was decided that the time was not yet ripe for its general adoption.

Another subject which we tackled was the laboratory notebook. This was considered from the point of view of administration. The secretary of the College Entrance Examination Board said, "We can not handle all these tons of notebooks." The readers and examiners felt that thirty per cent. was altogether too much for the notebook alone. The only thing the reader could judge in the notebook is the grade of teaching in the school. All the notebooks from one school look much alike. There is very little individuality shown in the notebook. When you compare the notebooks of one school with those of another, you are simply comparing the school's equipment and teacher. Notebooks are necessary, and we expect them to be carefully kept, as before, and inspected by the colleges.

It has surprized some of us to find how kindly this definition has been received, as a step in the right direction. Some do not understand, however, why it has aroused so little adverse criticism. I think I have the explanation in the fact that we dodged the questions where the real fireworks had been going on for the past few years. As an illustration: we did not definitely mention Newton's Second Law of Motion, but simply gave the general topic, Newton's Laws of Motion. Thus we have left the extent and method of treatment of this subject entirely in the hands of the teacher. Another, about which we were not very definite, was that of absolute unity, such as dynes, ergs, etc. Here again we tried to give the individual teacher the utmost liberty in the method of his work.

In conclusion, I want to say just a word to the headmasters about what seems to me the really important thing needed to improve physics teaching. I do not think a new definition is a matter of very great moment, but I do think it is a matter of the greatest importance to secure better conditions for the teaching of physics.

What are some of these conditions?

In the first place, the hardest thing of all is to get good teachers of physics. Why is this? It is because a man who is good in physics has many opportunities and openings in engineering and other departments of science. This being the case, it is difficult to get him to go into the teaching profession. Then, too, it must be confest that many of our colleges are doing very poor work in physics. The result is that very few students make physics their major subject. The instruction in our colleges and technical schools is too often simply physical measurements,—measurements, all the time; the meaning of the general principles and their useful applications are not duly emphasized.

Physics is a hard subject to teach. The classes in it are too large and too many. I was much surprized on visiting a model high school here in the city, to find laboratory sections of thirty-two pupils. We physics teachers have got to fight against such impossible conditions as these. In spite of the fact that New England is ruled off the map by the average New Yorker, it must be said that we are far better situated so far as opportunities are concerned. In my own school we have not more than eighteen in a laboratory section.

I would call your attention to President Eliot's recommendation in the Committee of Ten Report, that all teachers of science should be allowed one-half their time for study and preparation. That not more than one-half of his periods should be devoted to class work. I think this is another thing for us physics teachers to fight for. I was fortunate in working for eight years under a headmaster who said he expected his teachers to study as well as to teach. I suspect that not many headmasters keep that end clearly in view. Not many encourage their teachers to study. Physics is, of all subjects, a growing subject. The theories are constantly changing, and the practical applications are multiplying every day. What physics teacher does not have questions coming up every week about flying machines? As a rule, however, the physics teacher has very little time for this outside study and preparation, for he is assigned various additional school duties, such as looking after the school paper, orchestra, or

some athletic team. You would be surprized to learn how much time your physics teacher has to consume in getting out apparatus, testing it, repairing it here and there, putting it away again, washing bottles, and doing other work that a good intelligent janitor could be taught to do.

In order to make physics more attractive and intelligible to our students, we should not allow them to wait until the last year of the high school course before getting a glimpse of the subject. This might be done in the first year in an introductory course in elementary science, consisting mainly of lecture-table demonstrations by the teacher.

N. Henry Black

Roxbury Latin School
Boston, Mass.

## VII

# REPORT OF THE COMMISSION ON COLLEGE ENTRANCE REQUIREMENTS IN LATIN

At its annual meeting in 1908 the American Philological Association, acting upon petitions from the Classical Association of New England, the Classical Association of the Atlantic States, and the Classical Association of the Middle West and South, past this vote:—

*Resolved,* That there be constituted under the authority of this Association a commission of fifteen members on college-entrance requirements in Latin, to formulate definitions of such requirements and to further the adoption of these definitions by our colleges and universities, in the interest of that uniformity toward the attainment of which this Association in the vote of December 28, 1907, promised to "lend all aid in its power."

*Resolved,* That the members of this Association who are present as representatives of the Classical Associations of New England, the Atlantic States, and the Middle West and South be constituted a committee to select the commission named above; further, that this commission shall consist of four members each, two representing colleges and two representing secondary schools, from the Classical Associations of New England and the Atlantic States, and seven members from the Classical Association of the Middle West and South, four representing colleges and three representing secondary schools, and shall include the committee of selection.

The committee charged with the selection of the Commission, W. G. Hale, J. C. Kirtland, and Gonzales Lodge, asked the Latin departments of certain universities to designate representatives and left to the three Classical Associations the choice of the members to represent secondary schools. The committee deemed it important that four universities which admit students only on examination, two within the territory of the Classical Association of New England and two within the territory of the Classical Association of the Atlantic States, should be represented on the Commission, and thus made up the complement of college representatives allowed to these

associations by the vote establishing the Commission; in the case of the Classical Association of the Middle West and South institutions in different parts of its territory were selected. As finally constituted, the Commission consists of the following members:—

Walter Dennison, University of Michigan.
W. G. Hale, University of Chicago.
M. M. Hart, William McKinley High School, St. Louis.
J. W. D. Ingersoll, Yale University.
J. C. Kirtland, Philips Exeter Academy.
Gonzalez Lodge, Teachers College, Columbia University.
D. W. Lothman, East High School, Cleveland.
B. W. Mitchell, Central High School, Philadelphia.
C. H. Moore, Harvard University.
F. P. Moulton, Hartford High School.
J. J. Schlicher, State Normal School, Terre Haute.
R. B. Steele, Vanderbilt University.
D. R. Stuart, Princeton University.
William Tappan, Jefferson School, Baltimore.
A. T. Walker, University of Kansas.

As soon as all the members had been appointed, a chairman was elected. He submitted to the members interrogatories covering all the matters that had been proposed for the consideration of the Commission and such others as are involved in the demand for uniform requirements and uniform examinations, and they sent their answers, with the arguments with which they supported their opinions, to their colleagues. This preliminary discussion prepared the way for the meeting of the Commission, which was held in Cleveland on October 29 and 30, 1909. All members were present at every session, and the following definitions of college entrance requirements in Latin were adopted by unanimous votes:—

### I. AMOUNT AND RANGE OF THE READING REQUIRED

1. The Latin reading required of candidates for admission to college, without regard to the prescription of particular authors and works, shall be not less *in amount* than Caesar, *Gallic war*, I-IV; Cicero, the orations against Catiline, for the Manilian Law, and for Archias; Vergil, *Aeneid*, I-VI.

2. The amount of reading specified shall be selected by the schools from the following authors and works: Caesar (*Gallic war* and *Civil war*) and Nepos (*Lives*); Cicero (orations, letters, and *De Senectute*) and

Sallust (*Catiline* and *Jugurthine war*); Vergil (*Bucolics, Georgics,* and *Aeneid*) and Ovid (*Metamorphoses, Fasti,* and *Tristia*).

### II. SUBJECTS AND SCOPE OF THE EXAMINATIONS

1. *Translation at Sight.* Candidates will be examined in translation at sight of both prose and verse. The vocabulary, constructions, and range of ideas of the passages set will be suited to the preparation secured by the reading indicated above.

2. *Prescribed Reading.* Candidates will be examined also upon the following prescribed reading: Cicero, orations for the Manilian Law and for Archias, and Vergil, *Aeneid,* I, II, and either IV or VI at the option of the candidate, with questions on subject-matter, literary and historical allusions, and prosody. Every paper in which passages from the prescribed reading are set for translation will contain also one or more passages for translation at sight; and candidates must deal satisfactorily with both these parts of the paper, or they will not be given credit for either part.

3. *Grammar and Composition.* The examinations in grammar and composition will demand thoro knowledge of all regular inflections, all common irregular forms, and the ordinary syntax and vocabulary of the prose authors read in school, with ability to use this knowledge in writing simple Latin prose. The words, constructions, and range of ideas called for in the examinations in composition will be such as are common in the reading of the year, or years, covered by the particular examination.

NOTE.—The examinations in grammar and composition may be either in separate papers or combined with other parts of the Latin examination, at the option of each individual institution; and nothing in any of the above definitions of the requirements shall be taken to prevent any college from asking questions on the grammar, prosody, or subject-matter of any of the passages set for translation, if it so desires.

### SUGGESTIONS CONCERNING PREPARATION

Exercises in translation at sight should begin in school with the first lessons in which Latin sentences of any length occur, and should continue thruout the course with sufficient frequency to insure correct methods of work on the part of the student. From the outset particular attention should be given to developing the ability to take in the meaning of each word—and so, gradually, of the whole sentence—just as it stands; the sentence should be read and understood in the order of the original, with full appreciation of the force of each word as it comes, so far as this can be known or inferred from that which has preceded and from the form and the position of the word itself. The habit of reading in this way should be encouraged and cultivated as the best preparation for all the translating that the student has to do. No translation, however, should be a mechanical metaphrase. Nor should it be a mere loose paraphrase. The full meaning of the passage to be translated, gathered in the way described above, should finally be exprest in clear and natural English.

A written examination can not test the ear or tongue, but proper in-

struction in any language will necessarily include the training of both. The school work in Latin, therefore, should include much reading aloud, writing from dictation, and translation from the teacher's reading. Learning suitable passages by heart is also very useful, and should be more practised.

The work in composition should give the student a better understanding of the Latin he is reading at the time, if it is prose, and greater facility in reading. It is desirable, however, that there should be systematic and regular work in composition during the time in which the poetry is read as models.

Increased stress upon translation at sight in entrance examinations is not recommended solely upon the ground of the merits of this test of the training and the ability of the candidate for admission to college. Two other considerations had great weight with the Commission: the desirability of leaving the schools free to choose, within reasonable limits, the Latin to be read by their students; and the possibility of encouraging students and teachers alike to look upon the school work as directed toward the mastery of the laws of language and the learning to read Latin, rather than the passing of examinations of known content, a superficial knowledge of which may be gained by means unprofitable in themselves and in their effect upon the student's habits even vicious. The Commission is supported in this recommendation by resolutions past by the American Philological Association, the Classical Association of New England, the Classical Association of the Atlantic States, and various smaller organizations of teachers. Moreover, the recommendation is in line with the practise of other countries and the present tendency in our own country.

The adoption by the colleges of the definitions of requirements formulated by the Commission will not necessitate any change in the reading of the schools, and there is no reason to believe that the usual course of four books of the *Gallic war*, six orations of Cicero, and six books of the *Aeneid* will be at once generally abandoned or greatly modified. The course of study is not so likely to change as the methods of study. The Commission feels, however, that it is wise to open the way for a wider range of reading, and that the schools should have the right to select the material to be read, the

colleges contenting themselves with evidence that the reading has been so done as to furnish the right sort of training and the necessary preparation for their work. A flexible course of reading has many advantages. A change may be made when an author or style becomes wearisome or has grown so familiar that the change makes for a maximum of accomplishment, and the student who must repeat a year's work will generally do better if he has new reading. Besides, all authors and works are not equally suitable for all schools; difference in age and grasp should be taken into account, and students usually read with most interest and profit that to which their teachers come with most enthusiasm. The teacher, too, should have some incentive to increase his own familiarity with the literature.

It will be noticed that the amount of reading has not been diminished from the requirements now in force. The colleges which admit students on certificates from the schools will have no difficulty in exacting this amount, and experience shows that the substitution of sight-examinations for examinations in prescribed work has a tendency to increase rather than reduce the amount of reading. It will be noticed, also, that the choice of reading has not been left entirely to the schools. In addition to the more definite prescription of works for examination, the requirements limit the reading in school to certain works not usually read in colleges. Only schools which read more than the required amount will be free to go beyond these bounds.

The Commission has prescribed for examination portions of the reading intended for the last two years of the school course only, inasmuch as students usually take the entrance examinations at the ends of these years. It is expected that colleges which require only two years of Latin for entrance, or accept so much as a complete preparatory course, will set examinations in translation at sight rather than prescribe any portion of the reading.

The Commission was instructed by the American Philological Association not only to formulate definitions of the college entrance requirements in Latin, but also to further the

adoption of these definitions by the colleges and universities of the country, in the interest of uniformity. A vote past by the Philological Association in 1907 indorsed the demand that the requirements of different institutions should be exprest in identical terms, and this vote was approved in the subsequent action of the Classical Associations. The Commission therefore respectfully petitions the authorities of colleges and universities to adopt, without material alteration, the definitions of requirements formulated by it. When uniformity has once been established, it will be easy to correct these definitions or change the requirements themselves by concerted action, if they are found, after sufficient trial, to be unsatisfactory. The Commission has not attempted to make full definition of the requirements or a complete plan of examination. Altho it has confined its recommendations almost entirely to the requirements and examinations in reading, it believes it has made possible the removal of most of the vexations attending the present variety in the Latin requirements.

*John C. Kirtland* (Chairman)
*W. Dennison* (Secretary)
*W. G. Hale.*
*Maynard M. Hart*
*J. W. D. Ingersoll*
*Gonzalez Lodge*
*Daniel W. Lothman*
*Benjamin W. Mitchell*
*Clifford H. Moore*
*F. P. Moulton*
*J. J. Schlicher*
*R. B. Steele*
*Duane Reed Stuart*
*William Tappan*
*A. T. Walker*

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The Commission voted on December 28 to ask colleges adopting the definitions of requirements proposed by it to announce their action before the beginning of the next school year, and to hold the first examinations under the new plan in 1911.

# VIII

## CURRENT EDUCATIONAL PUBLICATIONS[1]

**Abt, Isaac A.** An inquiry into the status of the kindergarten. [New York, 1909] 23p. 8°.

Reprinted from Archives of pediatrics, v. 26, no. 4, April 1909.

**Adams, John.** Exposition and illustration in teaching. London, Macmillan and co., 1909. 426p. 12°.

**Bard, Harry Erwin.** The city school district; statutory provisions for organization and fiscal affairs. New York, Teachers college, Columbia university, 1909. 118p. 8°. (Teachers college, Columbia university, Contributions to education, no. 28)

**Binet, Alfred.** Les idées modernes sur les enfants. Paris, E. Flammarion, 1909. 346p. 12°. (Bibliothèque de philosophie scientifique)

CONTENTS.—But de ce livre.—L'enfant à l'école.—Le corps de l'enfant.—Vision et audition.—L'intelligence: sa mesure, son éducation.—La mémoire.—Les aptitudes.—La paresse et l'éducation morale.—Conclusion.

Bureau of municipal research, New York. School stories; an illustrated guide to school subjects of interest. New York, Bureau of municipal research, 1909. 88p. 8°.

A topical index to the tenth Annual report of the City superintendent of schools, New York City, for the year ending July 31, 1908.

Concerning the Massachusetts institute of technology. [Boston] Pub. by undergraduates, 1909. 154p. 12°.

"The world at large, unfortunately, knows but little of undergraduate technology, of the opportunities—educational and social—which the Institute has to offer; and the need of a book which should be, in the best sense, descriptive of the school has long been felt by both alumni and undergraduates. The present publication contains information which it is hoped will be equally of interest to prospective students and to those who have just entered the Institute."—Foreword.

**Draper, Andrew S.** American education; with an introduction by Nicholas Murray Butler. Boston, New York [etc.] Houghton Mifflin company [1909] 383p. 8°.

CONTENTS. Organization and administration, 8 papers, p. 3-116.—Elementary and secondary schools, 5 papers, p. 119-183.—The college and the university, 6 papers, p. 187-271.—Special aspects and problems, 7 papers, p. 275-376.—"From the papers which have accumulated thru twenty-three years of educational administration enough have been taken to make this book. . . . The result presents as compact and comprehensive an expression of my experience and thinking upon American educational questions as I can hope to gather in a single book."—Author's pref.

[1] Compiled by John D. Wolcott, Acting Librarian of the United States Bureau of Education, to which books and pamphlets should be sent for inclusion in this record.

**Farnsworth, Charles H.** Education through music. New York [etc.] American book company [1909] 208 p. 12°.

Presents appropriate work for each school year from the first to the eighth, inclusive.

"It is one of the vital signs of the times in education that there are books on the pedagogical side of music. . . . This masterful treatment of Professor Farnsworth . . . deals with the teaching of music in a broad, scholarly, earnest manner."—Journal of education, December 23, 1909, p. 668.

**Fechner, K.** *and* **Schmidt, O.** Münchener volks- und fortbildungsschulen; bericht über den stand des Münchener schulwesens im jahre 1908, im auftrage der Diesterwegstiftung erstattet. Leipzig, Quelle & Meyer, 1909. 210p. 8°.

**Folwell, William Watts.** University addresses. Minneapolis, The H. W. Wilson company, 1909. 224p. 12°.

CONTENTS.—Inaugural address, 1869.—The Minnesota plan, 1875.—The secularization of education, 1881.—The civic education, 1884.

**Francis, Alexander.** Americans; an impression. London, A. Melrose, 1909. 256p. 8°.

Chapters 9-15, p. 119-201, are on the following topics: Education, Co-education, Secular education, Colleges and character, College athletics, The collegiate task, College fraternities.

**Gansberg, Fritz.** Produktive arbeit; beiträge zur neuen pädagogik. Leipzig, Quelle & Meyer, 1909. 234p. 8°.

Based on the principle of school reform that intellectual training is to be resolved into productive activity and manual skill.

**Grice, Mary Van Meter.** Home and school united in widening circles of inspiration and service; with prefatory notes by Elmer Ellsworth Brown and Martin G. Brumbaugh. Philadelphia, C. Sower company [1909] 154p. illus. 16°.

"Those who enter freely into the democratic and humanitarian strivings of our time will read this little book with lively interest; and the suggestions which it offers regarding things to be done will, I doubt not, be found helpful in many communities, in town and country alike, but particularly in our larger cities, with their crowded and varied populations."—E. E. Brown in pref. note.

**Gurnaud, D.** La crise de l'école laïque; l'école et la famille. Paris, Perrin et cie., 1909. 324p. 12°.

CONTENTS.—Manuels scolaires.—Conflits autour de l'école.—Associations de pères de famille.—Projets de lois scolaires.—La famille et l'enseignement.

Harvard college. Class of 1868. Fortieth anniversary. Secretary's report no. 8, 1868-1908. [Boston, E. O. Cockayne, 1909] 261p. 102pl. 8°.

Of this report, prepared by the class secretary, Alfred Dupont Chandler, 150 numbered copies have been printed. It includes portraits of members of the class taken at graduation in 1868, and again, for the most part, forty years thereafter.

**Jordan, Louis Henry** *and* **Labanca, Baldassare.** The study of religion in the Italian universities. London [etc.] H. Frowde, Oxford university press, 1909. 324p. 12°.

**Lavrand H.** Reeducation physique et psychique. Paris, Bloud & cie., 1909. 121p. 12°. (Bibliothèque de psychologie expérimentale et de métapsychie: R. Meunier, directeur)

**Liard, Louis.** L'université de Paris. Paris, Librairie Renouard—H. Laurens, éditeur, 1909. 2 pts., each of 132p., in 1 v. illus. 8°.

History and description of the old and new University, of the new Sorbonne, and of the University faculties and schools.

**McKeever, William A.** Psychologic method in teaching. Chicago, A. Flanagan company [1909] 332p. 12°.

**Münsterberg, Hugo.** Das amerikanische college. [Berlin, 1909] 11p. 8°.

Reprinted from Internationale wochenschrift für wissenschaft, kunst und technik, November 20, 1909.

**Payne, E. George.** The system in German schools. Frankfort, Kentucky department of education [1909] 56p. 8°. (Bulletin of Kentucky department of education, n.s. 1, no. 8, October 1909)

A discussion, not intended to be scientific or exhaustive, of certain phases of the German school system and the lessons that may be drawn from it for the Kentucky schools. After a two years' intimate and careful study of the German schools, the author expresses his conviction that "our German cousins are very much nearer the solution of a proper educational system than we are on this side."

**Peeters, Edward.** Excursion pédagogique en Hollande; notes & impressions. Paris, H. Paulin & cie. [1909] 3 pts. in 1 v.—132, 134, 95p. 12°. (Nouvelle bibliothèque pédagogique, Ostende)

**Radlmaier, Lorenz.** Johann Michael Sailer als pädagog; eine erziehungsgeschichtliche studie. Berlin, A. Hofmann & Komp., 1909. 111p. 8°. (18. Beiheft zu den mitteilungen der Gesellschaft für deutsche erziehungs- und schulgeschichte)

**Randolph, Corliss F.** A report of a visit to European schools, including England, Wales, Scotland, Holland and Germany, January-March, 1909. Newark, N. J., 1909. 42p. 4°.

Reprinted from the School exchange, 3: 433-471, June 1909.

**Schwabe, Ernst.** Beiträge zur geschichte des sächsischen gelehrtenschulwesens von 1760-1820; beigegeben: die Pförtner schulordnung von 1808. Leipzig, B. G. Teubner, 1909. 283p. 8°. (Veröffentlichungen zur geschichte des gelehrtenschulwesens im albertinischen Sachsen, hrsg. im auftrag des sächsischen gymnasiallehrervereins, 4. teil)

**Smith, David Eugene.** The teaching of arithmetic. New York, Teachers college, Columbia university, 1909. 120p. 8°.

Reprinted, with revisions and additions, from the Teachers college record, v. 10, no. 1, January 1909.

**Strong, John.** A history of secondary education in Scotland; an account of Scottish secondary education from early times to the education act of 1908. Oxford, Clarendon press, 1909. 288p. 8°.

Owing to the fact that only within recent years have elementary, secondary, and university education in Scotland been clearly defined, and to space given to the interaction of educational developments in different countries, the scope of this history extends considerably beyond the limits assigned by the title.

# IX

# DISCUSSIONS

## THE SERVICE OF WILLIAM TORREY HARRIS TO BRITISH EDUCATION

Before it is too late, I am anxious to record, however inadequately, the great service which the late Dr. Harris rendered to British education during a period of critical importance and of momentous change.

The readers of the EDUCATIONAL REVIEW are aware that in the course of the last fifteen years, education in England has been quickened with a new life thruout its structure, from the universities to the elementary schools. This change may be traced in great part to the influence of three ideas which have worked in the mind of the people. England has begun to realize, as never before in her modern history, the fundamental unity of all branches of national education. Secondly, she has shaken off the habit of thinking that the less the central government has to do with education the better, and has welcomed a more generous view of the part which the central authority of the state should bear in stimulating and in aiding educational progress of all kinds. Thirdly, she has discarded a narrow conception of the work of the elementary school, and has set her face towards the more liberal provision of educational opportunity for the masses of the people. This change of mind has been due to many causes, amongst which the influence of American example has had an important place. That influence has come to us thru various channels—thru the press, thru friendly intercourse with American visitors to Europe, thru the writings of American teachers, thru the travels of English administrators and teachers in the United States. But in bringing about this change of opinion, four or five leaders of American educational thought have been especially influential. The late Dr. Harris

was one of these, and on the present occasion I speak of him alone, tho it is difficult to separate the work of Harris as an individual from that which he did as head of the staff of the Bureau of Education and as a member of a group of friends inspired by a high ideal of public service.

In 1905, in the last months of Lord Rosebery's government, Mr. Arthur Acland, then a member of the Cabinet, and Vice-President of the Committee of Council on Education, secured the assent of the Treasury to the establishment of a new branch of the Education Department, under the title of the Office of Special Inquiries and Reports. The work of the United States Bureau of Education was, in part, the model which Mr. Acland felt justified in asking the British Government to follow, with such modifications as the special circumstances of our educational administration rendered necessary. A few months later, in the early days of Mr. Balfour's government, the permanent officials of the Education Department had to frame the detailed plan for the operations of the new Office of Special Inquiries and Reports. At this juncture the services of Dr. Harris were timely and memorable. He supplied the department with full details as to the working of the bureau, and gave other guidance of indispensable value. This debt was acknowledged by the publication, in the first volume of *Special reports on educational subjects,* 1907, of an article by Sir Robert Morant, now permanent secretary of the Board of Education, and at that time assistant director of Special Inquiries and Reports. The first paragraph of the article runs as follows: "Every student of education is under a debt of gratitude to the United States Government for the work of the National Bureau of Education of the United States. Its volumes, published under the direction of Commissioner W. T. Harris, have probably done more than any other single agency to encourage a comparative study of the science and art of education, and of the various systems of educational administration now in force in the different countries of the world." Our debt to the Bureau of Education has steadily increased since that date and has been even enhanced by the labors of the present commissioner,

Dr. Elmer Ellsworth Brown, the most recent of whose reports reaches me as these words are written.

Dr. Harris had a further and more personal influence upon English educational thought at the critical period thru which it has recently been passing. He realized that a national system of education must be the outgrowth of historic conditions, and must bear the impress of the inner life of the people which it is designed to serve. He saw clearly that in English education the administrative methods employed must be in some respects different from those adopted in Scotland, and again, that in Ireland and Wales the educational systems would rightly develop on somewhat different lines from those of Scotland and England, respectively. This view, and the sympathy with which it was exprest, drew towards him many British students and administrators, and encouraged them in the belief that they might look for a reform in English education upon lines which would comprize some of the best results of American and German experience without breaking with our own historic past. Dr. Harris had a deep insight into the philosophy of history, and skilfully applied it to the questions of practical policy in regard to which he was consulted by friends in many different parts of the world.

Important, however, as was his work as United States Commissioner of Education, wide as was the circulation of his writings upon educational questions in their bearing upon national and international life, it was thru his personal intercourse with individuals that Dr. Harris exerted his greatest influence upon current educational thought and practise. It is now more than twenty years since I first had the honor of visiting him in his office at Washington, and the recollection of his delicate and considerate courtesy is vivid in my memory. From that time till the year of his resignation we were in constant communication, mostly by letter, but often in personal intercourse in the United States or in this country. No day was ever so busy as to disturb the sense of leisure with which he received a visitor from a distance. No personal anxiety was ever so great as to throw a shadow upon the sunshine

of his talk. And what he was so good as to do for me he did for hundreds of my fellow-countrymen during these years of increasing intimacy of intercourse between America and Great Britain. No one can measure the results, far-reaching and beneficial in a thousand ways, which have followed his willingness to place his immense knowledge and ripe wisdom at the service of those who came to seek illumination from him. He was the Nestor of modern education. And his works do follow him.

MICHAEL E. SADLER

WEYBRIDGE, ENGLAND

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## A CONSIDERATION OF PROPOSED CHANGES IN THE COLLEGE ENTRANCE REQUIREMENTS IN ENGLISH

A conference of English teachers representing several New England colleges and universities was held at Brown University, on January 26 and 27, for the purpose of considering possible changes in the entrance requirements in English. The discussion was a more harmonious one than is usually heard in an assembly of this sort: the demand for better preparation in grammar and the " mechanics " of composition, was virtually unanimous; and the proposal that the group of books assigned for study and practise be abolished from the list of entrance requirements, was supported by a sound majority.

There is something invidious in the first demand only in so far as it conveys the implication that emphasis is to be placed on the details of composition at the expense of more educative phases of composition work, and this, indeed, was the explicit desire of many of the members of the conference. The two proposed changes might seem intended to supplement each other, since the second provides for the entering student's esthetic cultivation, his forming a taste, a liking, for good books, rather than for his mental discipline. This, however, was accidental; there was no attempt to consider the question in a complete, systematic way, and the suggestion made by the Harvard representative that it be so discust, met with no re-

sponse. The body was for the most part made up of practical instructors, who had come to Providence not only with a strong sense of specific deficiencies in the preparation of their students, but also a firm conviction as to how these deficiencies were to be remedied. The ideas, that there is an element of absurdity in setting a student to develop paragraphs according to the principles of composition, while his mastery of sentence structure is imperfect, and that the close study of books, or any subject whatsoever, creates in young people a distaste for it, were received with general applause.

Now, tho I think a student who meets the entrance requirements in more highly inflected languages, really knows a good deal of English grammar; tho I believe his failure to apply what he knows is due largely to confusion of idea and the influence of the incorrect speech to which he is accustomed; tho I know that correctness is a more mature quality of style than effectiveness; tho I see an element of absurdity in teaching the indention of paragraphs before teaching the organization of ideas into paragraphs; tho I know that undue attention to these matters creates a distaste for composition and gives us students whose chief object in writing is to escape red ink; and tho the student who contrives to combine words in good use into unmeaning sentences free from solecisms, is my permanent despair, while I can correct in a short time the ignorance that is responsible for any specific faults in grammar or punctuation or paragraphing—tho I have these reasons to reconcile me to the existing condition, I should gladly support any plan for securing improvement in the mechanics of composition that did not seem to me to entail serious loss in other directions.

And, altho I have heard from college instructors in literature statements to the effect that the average sophomore is incapable of reading understandingly anything more difficult than Longfellow's poetry; tho I do not believe that all detailed study of literature or any other subject in itself resourceful, necessarily creates a distaste for it in a subfreshman, but that, on the contrary, a boy of sixteen or eighteen is capable of knowing the charm of intimate knowledge of a worthy thing as well as the sense of enlargement that comes with the first view; and tho

I believe the intelligent study of one piece of literature ought to help students to the intelligent reading of another, still, I believe that it is a good thing for young people to read much that they do not understand, and I should be ready enough to have the detailed study of literature abolished if I could believe that this change would provide our freshmen with ideas.

In short, I am in hearty sympathy with the aims of the majority of the members of the Providence conference, so far as they go. I, too, deplore the blundering sentences and the dearth of ideas that too often characterize freshman English work; I, too, want students who use better English and have more ideas. But I can not see that either of these palliatives will mitigate the evil against which it is directed. The empty-headedness of students and people in general is due rather to the fact that they read too much without thinking about it than to the fact that they read a little thoughtfully, and the benefit of reading what one does not understand is largely proportionate to the degree of intellectual curiosity with which one does such reading. As for the mechanics of composition—the boy whose preparation in composition has been chiefly on these things will, on beginning to work with ideas, have very much the experience of the little child learning to talk, who, so long as he speaks parrotwise, speaks correctly enough, but later, upon trying to put his own ideas into words, gets sadly confused. Knowledge of the requirements of grammar and punctuation is one thing; the application of that knowledge is quite another. The rules learned in the grammar school and illuminated by the acquaintance with the grammar of other languages gained in the secondary school, are habitually applied only as the result of continued, conscious effort on the student's part; and not a few educated people find it necessary to revise the sentences of a first draft and reread their manuscript for errors in punctuation. A freshman who does not care for composition will scarcely think it worth while to cultivate the habit of correctness in detail; one who is interested to learn can very quickly be furnished with the knowledge needed for self-help.

While the shifting of the emphasis demanded by these

changes could not be relied on to accomplish the specific ends desired, it would, I fear, confirm what seems to me the most serious difficulty in our composition work, one that it is almost impossible to correct in the year or the two years of required English work that is the maximum of time given to the subject in most colleges. This is the student's inability to do a purposeful piece of work in a purposeful way, to plan or forecast a piece of work, to see the end from the beginning. The student too often does his work in piecemeal fashion, not because he is indolent, but because he has not the power of looking at things in a large way. There are upper-class students who simply can not write an outline for a theme until after the theme is written. Their concatenations are all accidental. Such coherence as Mrs. Nickleby's and Dame Quickly's they know, but the interrelations and the subordinations of a complex organic unit they have not the grasp to comprehend. The want of mental flexibility on the part of the college student, and the want of time on the part of the English instructor, make it next to impossible to correct this fault if it is neglected in the secondary schools.

Mr. Barrett Wendell's *English composition* and the numerous, more elementary rhetorics patterned after it, have put composition in the schools in the United States in a fair way to be, in these days of large classes, the lecture system, and incurious acquisitiveness, the safeguard of real education. Rhetoric, as the well-taught American schoolboy of today knows it, is not a specialized, isolated subject, existing for the sake of preparing a boy to contribute to literature. The value of the modern composition course is measured, not by the effective themes pigeonholed in the office of the English department as a result of it, but by the tendency it has established towards thinking clearly, connectedly, and effectively. Its value to the student is primarily the thinking it makes him do, the unpacking, ransacking, and rearranging of the stowed-away contents of his brain in such wise as to make what he has really his, and to help him to a larger acquisition by enlarging his power of apperception. Such a composition course is tributary to every course in the curriculum.

When this work is not begun early, the freshman presents himself to his English instructor in the "dry sponge" condition that we hear so much about, so far as dryness is concerned, but the dryness is not to be accounted for by the sponge's not having been brought into contact with water enough. When the ordinary boy enters college with no training in the unified and coherent organization of ideas, as has been shown, it is improbable that he will form the habit in college—he will go forth into society another facile experimenter, with little sense of relation, for all the potentially valuable courses he has taken in college. If, however, the training is begun in the early years of school, on simple subjects and unremittingly carried on by structural study of increasingly difficult specimens of literature, and by the writing of increasingly long and complex themes, the student of ordinary intelligence will, whenever his academic course is closed, leave school with at least the beginning of an education. Any plan that would have us look to it that our students write good sentences and read good books, and stops there, takes into consideration the tools and the material upon which to work, but leaves out of count that indispensable requisite—the power of the worker.

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# X

## REVIEWS

**Laggards in our schools**—By LEONARD P. AYRES. New York: Charities Publication Committee, 1909. xv+236 p. $1.50.

I shall describe first the data Mr. Ayres has collected and later the use he has made of them.

The original data presented are: The grade enrollments of 63 cities exprest as per cents of the number of children 7, 8, 9, 10, 11, and 12 years old divided by 6; the number of pupils more than one year in the same grade in Kansas City (Mo.), Springfield (Ohio), and Williamsport (Pa.); the number of "double" promotions in five cities; the half-years spent in school to reach a given grade for 9,489 pupils (selected for completeness of record from 20,000) in New York City; the number of these pupils who are above the normal age because of late entrance upon school life, because of late entrance and failure of promotion, and because of failure of promotion alone; the difference between the average age of first grade and the average age of fifth-grade pupils in 29 cities; the causes alleged by school reports for withdrawal of pupils from high schools in 5 cities, and from elementary schools in 6 cities; the frequency of "retardation" amongst German, American, Mixt, Russian, English, Irish, and Italian children in New York City; the ratios of foreign-born children to native *plus* foreign-born children in the elementary and high schools of 4 cities; the ratios of children hearing a foreign language at home to the total number of children in each grade in Haverhill, and in each of grades 1—9 in New Britain; the ratios of children of foreign parents to the total for each grade in Reading (Pa.); and such ratios for foreign-born and native-born of foreign parents; the frequency of physical defects in dull, normal, and bright children, compared with proper regard for

age; evidence of the slight correlation of physical defects (except of vision) with dulness, and of their large inverse correlation with age; the number of pupils attending for specified fractions of the school year in 9 cities; the number failing of promotion in each grade of the elementary school in 16 cities, and in each grade of the high school in 4 cities; certain estimates with respect to the relation of sex to retardation and to elimination in 15 cities; the relation of (A) the per cent. which (a) the enrollment in the last grammar grade is of (b) one-sixth of the enrollment of pupils 7—12 inclusive, to (B) the per cent. which the six-year-olds are of (a) and also to (C) the per cent. which the fifteen-year-olds are of (a) for 39 cities; the relation of age at starting to age at graduation in 269 eighth grade pupils in New York City; the relation of age at starting to age when in the fifth grade in 967 pupils in New York City; estimates of retardation over a period of years for 6 cities; the percentages of the entire membership of the elementary schools that were enrolled in grades Kg., 1, 2, 3, and 4 in 47 cities for each of 12 or less years; and certain minor measurements.

This list does credit to Mr. Ayres and to the Sage Foundation. Moreover, in gathering these data Mr. Ayres has set an excellent example to students of education in not asking school officers to do his work for him. He has turned to the published reports of school systems, and got what is in them, and has turned to the unpublished school records in New York City to get what is in them. After a scientific worker in education has thus worked over what school authorities have themselves said in print or put on record, he is in a position to request certain further information from them. It would be a useful custom to establish that a student of education should, as Mr. Ayres has done, prove his devotion and scholarship by using what information there is on his topic before asking school officers to get more. And in the case of insufficiencies in his data which he would have had to ask school officers to supply I shall make no criticism.

In the use of these data Mr. Ayres has avoided certain errors, notably the neglect of the inverse correlation of physical

defects with age and the neglect of the effect of age of entrance to school upon rate of progress therein. But his record is not free from sins both of omission and commission.

With respect to the former, he fails to take advantage of the records of single pupils in New York City to answer such questions as: —What is the typical rate of progress, and what are in detail the variations from it of pupils entering grade 1A at six years? At seven? At eight? What is the correlation between (a) failure of promotion in grade 1B and (x) failure of promotion in each later grade (at least up to the grade at which elimination has reached 5 or 10 per cent.)? Between (b) failure of promotion in grade 2A and (x) failure of promotion in each later grade? Between (c) failure of promotion in 1B and 2A both and (x)? etc., etc. These correlations are of the utmost importance as measures of the extent to which failure of promotion depends upon temporary environmental causes and the caprice or bad judgment of teachers on the one hand, or upon some permanent defect in the pupil's environment or own nature on the other. There are other facts of importance which could have been measured if the New York data had been treated by the individualizing instead of the massing method.

He also fails to utilize the data of frequency of promotions as a help toward estimating the amount of retardation in the different grades or toward checking the estimates which he makes from the comparison of age and grade distributions. This seems inexcusable and, as we shall see, leaves uncorrected a very grave error in his estimates.

He also fails to utilize the data of the age distributions in each grade fully. After estimating elimination by ages as so much, elimination by grades as so much, retardation grade by grade as so much, population increase as so much, and death as so frequent, he should have verified his estimates by showing that they would result in the grade distribution by ages which actually exists. He should at least have published a combined age-grade table for all cities reporting that information, so that other students could make use of this

method of verifying his estimates. Such a table would be a more useful one to students of education than any of those which he has calculated. Its derivation would take not over twelve hours for 50 cities, the separate age-grade tables for each city being at hand.

Mr. Ayres's chief sin of commission may seem a little one, but it is disastrous. He treats the frequency of repetition of the grade in grades 6, 7, 8, and 9 as zero in amount! He does this in face of the fact that the three cities in which the number of pupils reported as repeaters in these grades give an average per cent. of repeaters in grade 6 of 17 per cent.+ AD 3 per cent.,[1] and in the last grammar grade of 8 per cent.+AD 3 per cent. He does it in face of the further fact that the proportion of repeaters in these grades in two of the three cities is exceptionally low, because the proportion of failures of promotion is exceptionally low.

Upon this utterly false assumption of zero repetition of a grade beyond the fifth rest his estimates of elimination. They are, of course, too low. Upon his estimates of elimination rest his estimates of retardation. They are, of course, too high for the earlier grades, and too low for the late grades.

To estimate from the age and grade distribution how many pupils leave school in a given grade, and how many pupils repeat the grade, is a delicate task. Mr. Ayres has failed in it.

Where the issue is not too involved Mr. Ayres's use of the data is satisfactory, and, altho expert students of education will find some elaboration of the obvious and a certain grandiloquence in reporting such facts as that children often fail of promotion, consequently repeat a grade, consequently are over fourteen before they reach the last grammar grade, consequently leave school before completing the elementary course, consequently suffer, and that something should be done about it, they will read the book with interest and use it for reference with profit.

The ordinary student of education will be misled as to the amount of elimination and retardation in the different grades,

[1] This means that on the average the true results for all cities may be expected to vary from 17 by 3; that it may possibly vary from it by even as much as 12.

and probably also as to the extent to which the latter is due to faulty administration of schools. But he will also learn of the existence of many important problems, and be given substantially correct answers to many of them.

EDWARD L. THORNDIKE

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**Mental discipline and educational values**—By W. H. HECK, M.A., professor of education in the University of Virginia. New York: John Lane Company, 1909. 147 p. $1.00 net.

First of all, this book is significant in that it marks the second stage of the present-day attack on the doctrine of formal discipline. I say *present-day* attack advisedly; for Herbart's destruction of the faculty psychology some generations back proved unavailing against the universally accepted doctrine of discipline in education founded on Locke's theory of the faculties. It was reserved for the past two decades to see the measurements of the newer psychology deal what now appears to be the deathblow to the long accepted doctrine of the indiscriminate transfer of mental power and skill.

But if the psychologists have fought the battle to something like a definite issue, there be many others interested who know of the battle only by the distant din. These have been told that the battle has been won against formal discipline; but of the terms of capitulation they know nothing; or, to drop a figure already becoming unwieldy, there are many earnest students of education, both in preparation for work and already engaged in it, psychological laymen, if you please, who wish to learn alike the results of current thinking and the grounds on which these results are based. Being laymen in psychology, they have no access to the mass of literature already accumulated on the question, and besides lack the time and inclination necessary to make an adequate study of all that has appeared.

It is to meet this need, now growing more acute, that Professor Heck has prepared the present volume on *Mental discipline*. As stated above, the first significance of the book

is that this thought movement has reached the stage of demanding a popular and accessible presentation of the merits and results of the controversy. The second significance is seen in the skill and fairness with which Professor Heck has presented the needed material. For it is neither a small nor an easy task to make a proper selection from so great a mass of literature or to present adequately varying viewpoints in short extracts. Not only has Professor Heck done these things, but he has done them well. Apparently, no important reference has been overlookt, and, considering the very narrow limitations of space, the excerpts given furnish a very adequate basis for a first-hand appreciation of the subject. As the references include the July, 1909, magazines, none need fear that the survey is not "up-to-date." In this connection, it is to be regretted that the dates are not given of the publication of the several books used as sources. In a controversial discussion, the date of appearing may be a very pertinent item.

The position which Professor Heck himself takes as to the resulting curriculum will not commend itself equally to all. The division of the spoil is usually more bitter than the fight; and quite likely much more experimentation and observation are necessary before any substantial agreement can be reached on this further question. The author's more personal views can be judged, however, on their own merits, without any invalidation of the rest of the book.

All in all, the book is well done, both on the part of the author and on the part of the publisher. The subject is so important, and this work so pertinent and useful, that it is to be hoped that a wide sale will follow.

If this work should stimulate the publication of similar books on practise, on fatigue, on at least one of the phases of memory, on spelling, and perhaps some other of the better studied topics of psychological inquiry, the educational public will have yet another reason for thanking Professor Heck for this excellent little book.

W. H. Kilpatrick

Teachers College
Columbia University

Professors Russell and Hastings of the University of Wisconsin have prepared a simple introductory book entitled *Experimental dairy bacteriology,* for the use of students of agriculture. The material seems to be well arranged and sufficiently simple to enable beginners to profit by the book. (Boston: Ginn & Co., 1909. 147 p. $1.00.)

A textbook of more than ordinary significance is *Elementary modern chemistry,* by Professor Ostwald of Leipsic, and Mr. Morse of Harvard University. Nowhere within similar compass have we seen brought together so much and so well ordered material for the use of the beginner in chemistry. The book ought to have a wide use thruout the United States. (Boston: Ginn & Co., 1909. 291 p. $1.00.)

The sort of work that our best universities are turning out is admirably illustrated in *The transition in Illinois from British to American government,* by Robert L. Schuyler, instructor of history in Yale University. The book, which is his doctorate dissertation, represents the skilful handling of new material. (New York: Columbia University Press, 1909. 145 p. $1.25.)

A very thorogoing piece of work is *A history of the teaching of elementary geometry,* by Alva W. Stamper. As a pupil of David Eugene Smith, the author has caught his teacher's enthusiasm for the history of mathematical teaching, and has made an indispensable book for the student of the history of education. (New York: Teachers College, Columbia University, 1909. 163 p. $1.50.)

*Fairy poetry,* selected by R. S. Bate, is an interesting grouping of good material from English literature that might well be made familiar to school children, both by reason of its form and its content. (London: George Bell & Sons, 1909. 135 p.)

American teachers of grammar would do well to examine the *Senior English grammar,* by A. J. Ashton, for the reason that it represents the English point of view in teaching this fundamental subject, a point of view which is quite different from that which is most commonly used here in this country. (London: George Bell & Sons, 1909. 382 p. 3s. 6d.)

A selection from President Roosevelt's writings, entitled *Stories of the Great West*, is published by the Century Company in a handsome volume. (New York: The Century Co., 1909. 254 p. 60c. net.)

A new textbook on public speaking is *Essentials of public speaking for secondary schools*, by Professor Fulton of the Ohio Wesleyan University, and Professor Trueblood of the University of Michigan. (Boston: Ginn & Co., 1909. 235 p. 90c.)

A *Handbook of Greek archæology*, by Professor Fowler of Western Reserve University, and Professor Wheeler of Columbia University, is a beautiful book. It is in high degree scholarly, and almost infinite pains have obviously been taken with the illustrative material. The book deserves the first place as a textbook or reference book in its subject. (New York: The American Book Co., 1909. 559 p. $2.00.)

Sir Randall Cremer was a noble soul, and his splendid efforts in behalf of international arbitration have left their most lasting impress. This extraordinary career is well outlined in the biographic sketch by Evans. (London: T. Fisher Unwin, 1909. 356 p.)

We wonder sometimes whether any one can be taught debating by the use of a book, but the steady procession of books on this subject appears to answer our question. A new one is *Practical argumentation*, by Professor George K. Pattee. (New York: Century Co., 1909. 363 p. $1.10.)

*Romantic legends of Spain* is a charmingly made book that will well repay reading. It is translated from the Spanish of Becquer by the Misses Bates. (New York: Thomas Y. Crowell & Co., 1909. 300 p. $1.50.)

The *Proceedings* of the third annual congress of the Playground Association of America, held at Pittsburg in May last, covers a large field, and contains much interesting and suggestive material. The syllabus and bibliography are particularly useful. (New York: Playground Association of America, 1909. 290 p. 15c.)

# XI

## NOTES AND NEWS

**Three Educational Currents in England**

In an address delivered some time since before the Fulham Educational Council, Professor Michael E. Sadler offered a most instructive analysis of the important currents of opinion now prevailing in England on questions of education. He outlines his view in the following words:

> One of these currents flows towards realism. This drift of thought is partly due to the influence of physical science. It is in part a reaction against the bookish tradition which schools inherited from the revival of learning. Realism in education shows itself in the increased use of laboratory work in science teaching. Realism is giving a more objective turn to the study of classical and medieval history. Still more profound has been the influence of realism in directing our thoughts towards the deeper matters in education, especially towards the ethical power of the corporate life of the school community and towards the effect of the teacher's personality, example, and moral presuppositions upon the half-conscious minds of his pupils. Realism is the white ant which is destroying conventional ideas in education. It is leading us to doubt the value of the monastic tradition in boarding schools for boys. It is popularizing the idea of the coeducation of boys and girls, even in boarding schools and during adolescence, under conditions of wise and watchful supervision, and when due regard is had for the different needs of boys and girls in the choice and intensity of studies. Realism is also producing a ferment of opinion as to the true limits of religious teaching in schools and as to the conditions of its spiritual efficacy.
>
> The second current of thought in English educational opinion sets towards democracy. Democracy, on its older and more individualistic side, favored the idea of the educational ladder. On its more recent and collectivist side, it shows itself distrustful of competition in schools, and skeptical as to the wisdom of helping every clever child to rise into the ranks and interests of a social group in the community wealthier or more privileged than the group in which the child was born. "*Spartam nactus es*" (collectivist democracy is inclined to say) "*Spartam nacta es; hanc exorna.* Don't be a traitor to your class; use all the education you can get in serving those among whom you were born." In both its forms, individualist and collectivist, democracy in education is a revolt against class-privilege, against crippling unfairness in social opportunity. It is a destructive movement, but weak on the constructive side. It has

sapped the foundations of ecclesiastical authority in national education. It has drawn from biology, first, a doctrine of individual competition, but latterly an excessive belief in the moral and educational power of material environment. This belief is not strengthened by the new developments of biological theory.

The third current of thought is anti-governmentalism. This is already strong, but is not yet fully recognized for what it is, namely, the coming reaction against doctrinaire bureaucratic collectivism. The anti-governmentalist distrusts bureaucracy as always tending towards organized mediocrity. Collectivism prescribes bureaucracy, and more bureaucracy for every social ill. The anti-governmentalist thirsts for real freedom, for the right to speak his mind and to go his own way, even if it be to his own hurt. He loves the open road. The collectivist hankers after the pattern State, conscientiously planned, meritoriously designed, scientifically governed by civil servants at moderate salaries illuminated by the hope of small annual increments and rounded off far down the vale of years with a snug pension. The anti-governmentalist feels towards this sort of thing as Becky Sharp felt towards Miss Pinkerton's Academy. He is restive under punctilious routine. His temperament is as radically different from the collectivists as was the temperament of the Cavalier from that of the Puritan. Now, as in former days, national education will be the field of combat between these two colliding temperaments. Somehow or other England will have to make room for both.

The tendency towards anti-governmentalism is beginning to show itself in England, as already in France, in the uneasiness of many of the teachers under bureaucratic control. It is showing itself also (here as in France) in the desire of some of the parents to assert their own rights to determine what their children should be taught as against the vicarious wisdom of some public authority. It is showing itself among young women in ways familiar to the reader of every newspaper. Much of the stimulus towards anti-governmentalism derives from Tolstoy, the Rousseau of our age. In England, Edward Carpenter and H. W. Nevinson are the most brilliant representatives of it. George Meredith was really on that side and so (occasionally) is Mr. Chesterton. In politics, it speaks thru Mr. Harold Cox and in another form, thru Lord Hugh Cecil. Anti-governmentalism is one of the movements which will play a great part in the early future. Its rise marks the wane of the fashion for mechanical collectivism. In the province of education, its influence will prove singularly embarrassing to the sanguine organizer of collectivist bureaucracy.

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**The Equal Pay Fallacy**

In a recent letter to the New York *Sun*, Mr. Edgar J. Levey, for several years Deputy Comptroller of the City of New York, and one of that city's most thoughtful and sagacious citizens, set out a statement of facts in regard to the so-called "equal

pay movement," which ought to be pondered in all parts of the United States. What Mr. Levey wrote was as follows:

What chiefly excites disgust with the "Equal pay for equal work" campaign is not the selfish but natural desire of the female teachers for larger compensation; not the selfish but natural opposition of the male teachers, who truly divine the peril to their future careers; not the opportune sycophancy of certain statesmen toward the powerful political machine which the women teachers have created; not the flaccid indifference of the taxpayers toward what is perhaps the greatest danger which has ever menaced their interests; not the stupid unconcern of those genuinely interested in the public schools, and of those favoring expansion of various municipal functions, which must inevitably be curtailed or abandoned, if we are to grant the enormous additional appropriations necessary to give effect to the school-teachers' propaganda; none of these things is quite so repellent as the hypocrisy with which this whole movement is masked.

"Equal pay for equal work!" Truly a clever catch phrase—so plausible in its direct appeal to the sentiment for justice that it has enlisted the services of thousands of the unthinking in advocacy of a cause which, if one but looks beneath the surface, is born of injustice and aims at nothing else. Under existing social conditions the woman teacher doing the same work as a male teacher and receiving the same number of dollars as salary per annum is not "equally paid." She is, as compared with him, greatly overpaid. And the conditions which cause the same salary to yield a larger "consumer's rent" in one case than the other is accurately reflected by supply and demand. As Dr. Allen has pointed out, the Interborough Association of Women Teachers would have the city ignore the law of supply and demand. Shall this law also be ignored in all the other city departments in the fixing of salaries? Shall it also be ignored in the purchase of materials and supplies? What limits, if any, shall be set to this new standard of privilege which is to turn our bureaucracy into a veritable aristocracy?

The most extreme demands of trade unionism have scarcely ever equalled those of the women teachers. When has a greater danger to democratic government arisen than this new theory of compensation, which is to ignore wholly the operation of natural laws? Are not our teachers' salaries already greatly in excess of those generally paid thruout the country? Is it urged that they do not constitute a fair living wage? Are teachers leaving the public school system because their services will command more elsewhere? Is the desirable and honorable character of this civil employment—with its attraction not unlike that possest by the naval and military services—to be wholly ignored? Are there not many eager applicants for every vacancy that exists? If women in the public schools can properly perform all the functions of men at a smaller wage, then in the interests of honest and economical government by all means get rid of the men. But this is not claimed. If the women teachers in any or all the grades are paid too little for the efficiency of public education by all means make a proper adjustment

of salaries. But this is not the claim. The claim is that the city, ignoring all ideas of justice and violating the specific pledge of trusteeship toward its taxpayers proclaimed in the Charter, shall fix an artificial standard of salaries for a selected fraction of its civil employees far in excess of market values as a help toward the forcing of sex equalization.

Some day in the future labor conditions as they affect the sexes may be equalized or perhaps reversed. It may be the woman then who typically will be the head of the family, with male dependents, and the man who typically will be enabled to use a large part of his salary for mere pin money. But has our city at the present time no more pressing demands upon its treasury than to spend so many millions per annum in the furtherance of this grotesque propaganda as admittedly will be required? Whether the additional cost is to be $6,000,000 per annum or $11,000,000 per annum let the experts determine, if they can; but the important thing is for the people to realize that the city government today is absolutely forced by inexorable conditions to make discriminating selection in its budget increases, and that to yield to these demands means an immense obstacle to the solution of its many pressing problems of civic progress and development.

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**A Plan of School Reorganization**

Superintendent Bunker of Berkeley, Cal., has presented to the Board of Education of that city a carefully studied plan for the reorganization of the school system, which is printed in full in the *Western journal of education* for December last. The immediate necessity for reorganization is the urgent need for a sufficient number of classrooms to meet the prospective growth of the high school. Altho a large sum of money has been expended during the three years last past for high school purposes alone, yet as soon as the new buildings have been ready they are filled to their utmost capacity. Reluctant to apply to the taxpayers for another bond issue for high school purposes, Superintendent Bunker proposes a reorganization and a regrouping of the several grades of schools in the interest both of economy and of educational efficiency. In brief, he proposes to have elementary schools with a six-year program, introductory high schools with a three-year program, and high schools with an additional three-year program. The plan proposes that all the seventh, eighth, and ninth grade children shall be assembled at certain convenient schools organized for work of that character; that the work of the ninth year be no longer done at the high school proper but at these

introductory high school centers; and that the other schools of the system be limited to the first six grades, and made feeders to the introductory high school centers. Mr. Bunker is able to show that by this readjustment, the entire school plant will be kept working to nearly its full capacity, while the present congestion in the high school will be relieved.

It is believed that this plan of reorganization will meet more effectually than the traditional plan the needs and capacities of school children.

In our judgment, Mr. Bunker is building on a sound foundation. His plan of reorganization will, if adopted, increase the flexibility and the adaptability of the school system to pupils of varying needs and conditions. Moreover, it will make a break between elementary and secondary work at the point where, from the standpoint of psychology and economics, it belongs, namely, after the conclusion of the sixth school year.

The old-fashioned seven-, eight-, and nine-year elementary school course, followed by a four-year high school course, can not long continue to impose itself on progressive educational administrators.

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**The Beit Memorial Fellowships**

A munificent and significant gift has been made to the University of London by Mr. Otto Beit, which takes rank with the great American gifts and bequests for higher education and research. Mr. Beit's gift makes available a capital sum of about $1,100,000, from the income of which three-year grants of $750 each are annually to be made for the support of fellowships for medical research. Any man or woman of European descent who is a graduate of any approved university within the British Empire is eligible to election to a fellowship. The first trustees of this great fund are Lords Milner and Curzon, the Rt. Hon. Richard B. Haldane, the principal of the University of London; Dr. James K. Fowler, B. F. Hawksley, and Mr. Otto Beit himself.

This great foundation can not fail to be a valuable stimulus to medical research, not only in London but thruout the British

Empire. The generous founder, as well as the University of London, is to be sincerely congratulated upon what has been so generously planned and made possible.

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**Simpler Spelling and the Normal Schools**

Three of the best known normal school presidents in the country, Messrs. Seerley of Iowa, Felmley of Illinois, and McKenny of Wisconsin, have united in addressing a letter to the presidents and faculties of the normal schools thruout the United States, calling attention to the inclusion of 3,000 simpler spellings in the new edition of Webster's *International dictionary* than were authorized in the last preceding edition of that work, and urging normal schools to undertake the following lines of activity:

1. That the state normal schools should recognize simplified spellings as alternativ and acceptable forms, and be willing that students should use them in their school work if they so prefer.

2. That the state normal schools should give due publicity to the simplified spelling movement, simply as a matter of news and general intelligence, so that all students may have their attention cald to the extent and plan of the movement and the arguments used to justify it.

3. That the state normal schools should use their influence to get recognition of the simplified spelling forms by newspapers and publishers in their respectiv localities. To this end they should ask the educational press to recognize the importance of this movement in the improvement of the work of the schools.

In addition to these three important lines of progress in thinking and acting, it is very desirable that these presidents and faculties go farther than nominal acceptance, and that they show their faith by actual practis and acceptance, as follows:

1. That the state normal schools should adopt the simplified spellings in all publications issued by them, in order to show that such instruction does not mar or render obscure the

printed page, and that such use is desirable from both an economical and a scholarly standpoint.

2. That the state normal school faculties should show sympathy with said movement by adopting, so far as possible and practicable, the simplified spellings in their individual correspondence, thus lending their personal good will and indorsement to a reform that promises so much to elementary education.

3. That the state normal schools should have representativ members of their faculties who are prepared to give addresses and lectures upon the importance, the benefits, and the demand for the simplifying of the spelling of the English language, and that such persons present such facts at educational meetings, at teachers' institutes, and on other occasions, in order that ignorance and superstition regarding these questions may be dispeld and an intelligent conception of this educational problem may prevail.

4. That the faculties of state normal schools should cooperate in collecting lists of words, used in the public schools, that should be simplified and then introduced into the various text-books. To this end, recommended simplifications of said words are solicited from all interested teachers.

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**Those Godless Colleges**

At the recent convention of the Students' Volunteer Movement for Foreign Missions, held at Rochester, N. Y., reports were presented showing a greatly increased activity and interest on the part of college students in religious and missionary undertakings. The best evidence of the efficiency and power of the Student Volunteer Movement is the number of volunteers who have sailed. At the Toronto convention in 1902 it was reported that 760 volunteers had sailed in the preceding four years. In the quadrennium following the Toronto convention, and ending with the Nashville convention in 1906, 1,000 volunteers sailed. In the four years which have since elapsed, ending with the Rochester convention, 1,283 volunteers have sailed. The total number of volunteers who have sailed since the beginning of the movement in 1886 is 4,346.

Another test of the rising tide of practical missionary interest among students, says the report, is the increase in their giving. At Nashville it was reported that the students of North America were contributing $80,000 a year. They are now giving $127,000 a year, an increase in four years of nearly 60 per cent. Scores of colleges and schools are each supporting entirely or in large part their own representatives in the foreign field. The students of Yale head the list at present.

Last year they gave $10,000 to missionary objects. Among women's colleges, Vassar made the largest contribution, $3,385.

The past four years have been a record-breaking period in the promotion of mission study among students. In the year preceding the Nashville convention there were 1,049 mission study classes in institutions of higher learning in the United States and Canada. Last year there were 2,084. In the year before the Nashville convention the total number engaged in mission study was 12,629. In the past year it was 25,208. The number, therefore, has doubled in four years.

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**An Important Step Forward**

The report of the Commission on College Entrance Requirements in Latin, published elsewhere in this issue of the REVIEW, following closely upon the new definition of the college entrance requirements in physics to which we have already called attention, indicates that some of the long-standing difficulties in the relation between high schools and colleges are being removed.

This new report may be unreservedly commended to college faculties everywhere. The weight of the signers alone would make it a document of more than usual importance; but quite apart from the signers the recommendations contained in the report justify themselves by their reasonableness, their good sense, and their thoroly practical character. We hope that there will be no delay by the leading colleges in following the recommendations of this Commission. Any faculty which declines to follow them takes upon itself a pretty heavy responsibility.

The Boston *Herald*, in discussing the educational changes now taking place at Harvard, illustrates once more the significance of the cry, "The King is dead! Long live the King!" In its issue of December 29, the *Herald*, speaking of the substitution at Harvard of the group system for the system of free electives, which had been, until recently, hailed as an immense educational advance, under no circumstances to be compromised or given up, says:

"Thus does a régime of liberty under the law return, where liberty had verged on license, with results that the alumni, trained under the unguarded 'elective' system, themselves admitted were unfortunate, in the light of their experience in the world."

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Superintendent Brooks of Boston, who will preside over the meeting of the Department of Superintendence at Indianapolis, March 1-4 next, has prepared an attractive and significant program. The keynote of it is the difference in children, and he has succeeded in bringing into the discussion men whom every one will be glad to hear. At successive sessions of the Department, there is to be a discussion of the differences between children in mental alertness, in moral responsibility, in mental attitudes, tastes, and tendencies in physical condition, in environment, and in vocational aim. There ought to be an unusually large attendance of superintendents to hear and to participate in these discussions, which can not fail to be fruitful as well as highly interesting.

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In a communication from a correspondent, entitled "Football, a sport for gentlemen and a moral agent," published in the EDUCATIONAL REVIEW for December, 1909, there was cited a newspaper statement to the effect that a pupil in the Mackenzie School at Dobbs Ferry, N. Y., had died as a result of injuries received in a game of football. The head-master of the Mackenzie School has called attention to the fact that this newspaper statement was without justification, inasmuch as five reputable physicians united in a professional certificate to the effect that the student in question died of a germ

disease which could not possibly be caused by an injury received in football or in any other athletic game.

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What is the matter with the dignified National Academy of Sciences? What has happened to cause their memoirs and reports to be officially classed among the "worthless pamphlets" in the Folding Room of the House of Representatives? That overburdened House is seeking for help in the disposal of the useless documents on its hands, and any one who puts a rating higher than uselessness upon these volumes of memoirs and reports issued by the National Academy of Sciences can have them for the asking.

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It is stated that at a recent meeting the Board of Education of the city of Washington by resolution directed its officials to remove from the pay rolls all persons not performing service. How many such persons were there? How long had they been upon the pay rolls? Why were they upon the pay rolls?

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The international movement in the field of scholarship goes steadily onward. Not fewer than a dozen well-known European historians and economists came to New York to attend the joint anniversary meetings in December last of the American Historical Association and the American Economic Association.

The Kaiser Wilhelm Professor for the year at Columbia University is the distinguished mathematician, Carl Runge, of Göttingen; the exchange professor at Harvard is Professor Eduard Meyer of Berlin; Professor Otto Jespersen of Copenhagen has been regularly on the teaching staff at Columbia University for the first half year. The representatives of English scholarship, Mr. A. Lionel Smith of Balliol College, Oxford, and Professor J. S. Reid of Caius College, Cambridge, will be in residence at Columbia during the second half year. The well-known French philosopher and man of letters, M. Emile Boutroux, will also visit Harvard and Columbia during March and April. The day of provincialism and colonialism in scholarship appears to be fortunately past.